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IS "STANDPOINTLESS PHILOSOPHY" POSSIBLE?

A DISCUSSION of this question appears to be called for by the fact that many of our leading philosophical movements and tendencies are found to be making insistent claims in the direction of *Standpunktslosigkeit*. They not only claim a standpointless position for themselves, but declare categorically that any position which proceeds from any specific point of view is not worthy of being called philosophy at all. The task—yes the *only* task—of philosophy, we are told from many sides, is not to prove anything, but simply to analyse the "given facts". This position gets the appearance of additional prestige from the habit in which many of our scientists—the all too generally admitted high-priests of modern western civilization—are engaged of throwing about "brute facts".[1] In view of these widespread and rather clamorous tendencies it would seem to be of some importance to discover whether or not such claims can be substantiated. This involves an examination of such claims as put forth by some leading contemporary philosophers.

I

Let us look, first of all, at such claims in the position of Nicolai Hartmann. I start with Hartmann not because he is the most typical representative or example of this point of view, but, in fact, for almost the opposite reason. For the positions generally known and taken together as essentially positivistic are, of course, the ones particularly known, because they claim to deal with facts as such, entirely irrespective of or uninfluenced by any specific stand-

[1] *Cf.* in this connection, as a concrete and quite recent example, the number of times which this phrase "brute fact(s)" occurs in Robert W. Millikan's 1932 Earl Lecture (Berkeley, California) on "This Changing World".

point, attitude, or view. While, for this very reason, I shall make the most thorough analysis of these claims to *Standpunktslosigkeit* in a leading representative of one of the most influential contemporary positivistic schools, it seemed worth while to show at the same time that similar claims are brought forth and pushed by philosophers whose position may be far removed from the ordinary positivisms. The position of Nicolai Hartmann certainly fills this latter specification. Having begun as a neo-Kantian of the Cohen-Natorp school, he has leaned more and more heavily towards the phenomenological position, although he has never become a mere follower or disciple either of Husserl, or of Scheler, or of any one of the other more or less orthodox phenomenologists. At any rate, even this brief characterization is quite sufficient to indicate how far he is, in principle, removed from any of the ordinary types of positivism. It is, then, just this essential remoteness from the positions generally making claims to standpointlessness which makes Hartmann's similar claims so interesting.

Hartmann makes his specific turn to phenomenology at the point of the facing of the immediately "given" elements which he finds in any epistemological situation or event. "The determining factor for the desired solution of the [epistemological] problem is the formulation of the problems themselves", he writes. "But determinative for the formulation of the problems again is the formulation of the phenomenon as what is found [to be] there."[2] To furnish us with such a formulation he conceives to be the main task of the phenomenology of knowledge, and this is the aim of a large portion of his *Grundzüge*. In this he purports "to follow precisely the natural attitude of the knowing consciousness; and to formulate the knowledge-phenomenon in its greatest possible breadth and completeness".[2]

Now with reference to this "analytical preliminary task" he insists that it "stands in principle not only prior *(diesseits)* to any and all formulation of position and to all theories and solutions, but also prior to any and all formulation of the questions themselves, prior to all problem-formulation, *i. e.*, prior to all selection of tendencies of viewpoint and of points of interest. It [namely

[2] In *Grundzüge einer Metaphysik der Erkenntnis* (second edition, Berlin and Leipzig, 1925) p. 37.

the preliminary analysis] deals with the pure *quaestio facti.*"[3]

Here, then, we are clearly confronted not only with the claim to, but also with the demand for, an at least methodological *standpointlessness* in the preliminary analysis and description of the "given phenomena" in the knowledge-situation. *Quaestio facti* is to be described wholly as such; that is to say, such description of the "given facts" may in no sense be influenced or determined by any adopted attitude or preconceived standpoint. For he tells us that for a successful dealing with the actually "given facts" it is necessary "in the meantime to reject all viewpoints of selection and to accept the datum[4] without any selection. For phenomenology all phenomena must be of equal value and validity. They cannot be that for theory. But phenomenology *precedes* not only *theory* but *also all problem-formulation.* The *whole task* [*of phenomenology*] *is the ordering and combining of the given* under the unity of *descriptive* concepts."[5] This decidedly positivistic-sounding statement is all the more interesting because in its determination to begin with a complete *Standpunktslosigkeit* it certainly leaves the ground of neo-Kantianism. That there is, in this Hartmannian position, a decided positivistic tinge becomes clear when, as in the passage just quoted, we are told that phenomenology's "whole task is the ordering and combining of the given under the unity of *descriptive* concepts". "Pure" description has always been one of the characteristic aims of positivistic schools. Stated briefly and succinctly, then, the whole aim of philosophy "in its preliminary task" is said to be *conceptual description of the given;* for only thus is it admitted that philosophy can get at the "pure phenomenon".

That, none the less, this tendency towards a positivistic position is far from the ordinary positivisms becomes at once clear when Hartmann shows that it is by no means only scientific concepts or even just scientifically obtained concepts which give us direct knowledge of the "pure phenomenon". He states specifically that "the non-scientific consciousness is also knowing consciousness".[6]

[3] *Ibid.* 37. Hartmann's italics. (All quotations from this work, given in English, are translated by the present writer.)

[4] In the present discussion—in translated quotations as well as in critical analysis—I shall use the Latin word *datum* and its English equivalent, *viz., the given,* interchangeably.

[5] *Op. cit.* 42; my italics. [6] *Ibid.* 39.

Yes, more than that: "That which is had in knowledge is not only not exhausted by what is had by the sciences, but is, in fact, disfigured by them; scientism itself falsifies by means of its preconceived points of view".[7] Thus Hartmann definitely rejects the usual positivistic flight into the arms of the natural sciences.

Nevertheless, it is the pre-theoretically given "pure phenomenon" which must be the first object of standpointless conceptual description. According to Hartmann, this initially given "pure phenomenon" is limited neither to the data of science nor to the "given facts" of non-scientific immediate experience, neither to the single sentence of a few of the great system-building philosophers such as Descartes or Fichte, nor to the "nothingness" of the logical idealist. In other words, the "given pure phenomenon" is said to be vastly more inclusive than any specific "selection"; yet it is not "everything". For under "everything" in experience theory itself must also be included; and it is precisely what theory works upon that is given, but not the theory itself. While, then, theory itself, in any and all of its forms, must remain excluded from the initial objects of philosophical analysis, the greater mistake, in general, has not been that of too great inclusion in the "given pure phenomenon", but rather the too general exclusion of initial data. "For", as Hartmann puts it, "at the moment of the selection the predetermination of the standpoint is tacitly smuggled in, and the standpoint excludes what has already been omitted. The *petitio principii of the standpoint,* the most common of all philosophical systematic errors, is fundamentally an error of givenness *(Gegebenheit)*[8], and more specifically, an error of *givenness too narrowly conceived.*"[9] Begging the question by reason of an already adopted standpoint—this, so it is here specifically stated, is "the most common of all philosophical systematic errors". But, since this "common philosophical error" is "fundamentally" one of "givenness too narrowly conceived", it is "only the *greatest possible maximum of givenness* [which] can suffice for that truly critical attitude

[7] *Ibid.* 39.

[8] I realize that the word givenness sounds clumsy in English, but, not being able to find a good English word which carries the precise meaning of the German *Gegebenheit,* I have considered it more important to preserve the exact meaning of the original text than to render the translation in idiomatically unobjectionable English.

[9] *Op. cit.* 42. Italics in the original.

which reaches behind all possible standpoints and remains critical towards them also".[10] Certainly it would have been impossible to state the ideal of *Standpunktslosigkeit* more clearly.

Yet Hartmann is by no means unaware of the attacks made on such claims. For, in the same connection, he writes: "The general lack of clarity at this point is rooted ultimately in the *traditional prejudice* that *the conception of the standpoint* would have to be the first and the most evident of all insights. In truth, however, [this conception] is the last and most dependent insight, since it is conditioned by the total treatment of the problem. To step up to the problems with a ready-made standpoint implies prejudging their solution and making the entire investigation superfluous. Before anything else it is necessary to break with this prejudice."[11]

There is, of course, a considerable proportion of truth in these last remarks; but it is by no means obvious that the alternative to "stepping up to problems with a ready-*made* standpoint" is entire *Standpunktslosigkeit*. That is to say, it is certainly possible, to say the least, to *have* a standpoint even *without* consciously or logically having *manufactured* it. In fact, as I see it, the question is not whether it is possible to attack any problem without bringing to such attack a previously *manufactured* standpoint, but rather whether it is possible for any adult human being to approach any problem whatsoever without some standpoint—however specifically unnoticed or unclarified it may be. And it is our charge that even in the following "Analysis of the Knowledge-Phenomenon"[12] Professor Hartmann in no wise proves the possibility of blankly stepping up to any "given pure phenomena". He finds given an almost infinitely greater number of "pure phenomena" than do most positivists. But he is as unable as the positivists will be shown to be to prove that "as given" these phenomena are either actually approached or approachable by a standpointless mind. His attempt to provide us with a universal critical ontology "as a standpointless basic science" is far from having been realized in his *Grundzüge;* and any such attempt is foredoomed to failure from the

[10] *Ibid.* 42. Hartmann's italics.
[11] *Ibid.* 42 (italics mine).
[12] See chapter 5 of the *Grundzüge,* pp. 43-59.

beginning. This, as I hope to show before the end of this paper, lies in the very nature of the whole situation involved.

II

In the natural sciences we have been accustomed, for many decades, to claims of objectivity; and hence it is perhaps not surprising that, for some time past, philosophers too have been aiming at objective philosophy. Such an aim may, moreover, be considered quite natural to a philosopher whose entire philosophical position is oriented from the point of view of the physical sciences, as is the case, for example, with Moritz Schlick. But when we find this same aim expressed by a philosopher whose whole position is as nearly as possible diametrically opposed to any naturalistic position, we see how far-reaching it has become—in philosophy no less than in natural science. Hugo Dingler certainly cannot be accused of any leanings towards scientism. Yet it is he who, in the introduction to his volume on *Metaphysik als Wissenschaft vom Letzten*,[13] says that "the following work expressly undertakes to pursue objective philosophy". He justifies this aim by adding that it is "nothing else than what in the last analysis every true philosopher at heart desires and has desired". He expresses, moreover, the belief that even others will recognize that in his present formulation he has succeeded in putting into words much which really is the common possession of all philosophers, so that his propositions "can now be objectively proved by everyone accustomed to thinking".[14] How strangely like the statements of innumerable other philosophers of all types of schools and of positions this sounds! Every philosopher who feels that he at last has found "the Stone of the Wise Men" has expressed and will, I suppose, continue to express himself in much the same way. They seem constantly to say: If men will only bring their good common sense to comprehend and bear upon what I (no matter who the I in any specific instance may be) have to say, they will not only have to agree with me, but they will also have to admit that the riddle of the universe is at last solved—by my incontrovertible demonstrations and reasonings! This holds even of those who deny that there is (or ever was) a

[13] München, 1929; p. 17. (Quotations from this work, given here in English, are translated by the present writer.)

[14] *Op. cit. passim.*

real riddle of the universe, since, as they claim, in common with Schlick and his disciples, the universe has always been open to the measurements and applications of common sense. For to have discovered this last mentioned fact is considered by the exponents of this theory to have rid the philosophical world of the bugaboo not merely of one but of endless numbers of purely imaginary problems *(Scheinprobleme)*. When will philosophers learn to be less pretentious and arrogant in their claims? One would imagine that the philosophic experiences of twenty-five centuries would have taught them the fallacy of self-esteem! But it seems as if the history of philosophy has been as much lost and wasted on philosophers as the history of science has been entirely too generally lost and wasted on scientists—at least until virtually contemporary days.

Be that as it may, I want to show further that Dingler, despite his strong and—it seems to me—exceedingly able plea and argument for a sound metaphysics, and on the other hand, quite in harmony with his claim to "objective philosophizing", is another outstanding example of a philosopher who claims that his *method* at least is free of any initial points of view or of any preconceived tendencies. In the same sentence from which came my first quotation from Dingler's recent book, he says specifically that in this book he has definitely tried "to carry on considerations which are independent of attitudes *(Einstellungen)*".[15] Here, then, we have another case of an out and out metaphysician, who—in contradistinction to Schlick—appears to believe that it is even possible to engage in metaphysics, *not* speculatively, but as objective philosophy and independent of any (specific) standpoint or attitude.

I cannot here enter into a critical analysis and discussion of Dingler's quite phenomenal work. Nor is this at all necessary in view of our present interest. I have used him as an example only because, on the one hand, his claim to standpointless considerations is identical with that of Hartmann and not dissimilar from that of Schlick (though in each case, obviously, for different reasons and with different explanations), and because, on the other hand, his general position differs vastly and basically from both of these. Nor need one read very far into the works of Dingler

[15] *Ibid.* 17.

to discover that he does, after all, begin his entire philosophical deliberations with a very definite bent of mind and, consequently, with obvious initial assumptions which may appear to him as, of course, self-evident and undeniable by any rational mind. Nonetheless they *are* initial assumptions and help, therefore, very definitely to determine the direction of his philosophical position. In other words, his "considerations" are by no means "independent of attitudes (*Einstellungen*)". Let it be said again: This charge is not an accusation in the sense of charging Dingler with having failed to make good his promise; it simply states a discoverable fact—which can easily be checked by reading his works—and a fact, moreover, which I contend is humanly inevitable.

Indeed, as an openly avowed metaphysics, Dingler's position is most obviously a very definite philosophical standpoint. At this point I may even have to agree, at least partially, with the point of view of the logical positivists[16] when they insist that all metaphysics is speculative. Although it ought also be said that no metaphysics which is *purely* speculative is worthy of the attention of rational minds.[17] Rather, it is not only possible but desirable to build one's metaphysical speculations upon empirically verifiable data. That this can and may be done, even with what are accepted and demonstrable so-called scientific facts, V. F. Lenzen has recently shown quite clearly.[18] In fact, he seems to have demonstrated the definite possibility of accepting widely differing metaphysical positions without in the least leaving out of account or impairing the acceptance of the so-called scientific facts. But he has also shown that even the simplest "theory of objects", while not as metaphysically speculative as the positions of subjectivism, monistic realism, and dualistic realism (the three epistemological theories most suitable to the explanation of scientific facts, according to Lenzen), is nonetheless already "the first level of metaphysics". As he puts it, "the so-called elimination of metaphysics from

[16] To use the term applied to the so-called Viennese School by two American adherents to the position, *viz.*, A. E. Blumberg and H. Feigl, in an article entitled "Logical Positivism", *Journal of Philosophy* XXVIII 281-296.

[17] At this point, of course, the clash with the logical positivists occurs at once, since they insist that all metaphysics is not only purely speculative, but, in fact, wholly illusory—and therefore in no sense respectable philosophy at all; a position which I can in no wise accept.

[18] In his essay on "The Metaphysical Import of Scientific Facts", *University of California Publications in Philosophy* XIV 151-176.

physics means that the latter is to be restricted to the first level in metaphysics, namely, theory of objects".[19] Moreover, as he also points out, "in the construction of a theory of objects one employs a subjectivistic criterion of reality and assumes a realistic attitude. An object (for science) is real because it is an object of possible experience, but it is described as if it were independent of experience."[20] Thus, however unconscious the scientist may be of the fact, even the purest physical theory of objects is shown to be entangled—*nolens volens*—in metaphysical assumptions.

It is possible, of course, that Dingler simply overstated himself in the passage quoted and that all he really meant to claim was an unprejudiced method of procedure, an aim, certainly, which it would seem as foolish to attack in a philosopher as in a scientist. And yet, even if this were the case, I should still have to insist that, if by unprejudiced he would mean *ab initio* wholly standpointless, then even his modified statement could not be allowed. For to begin philosophizing with your mind a mere *tabula rasa* is simply humanly impossible. Just as the so-called scientific attempt to let the facts speak for themselves and lead where they will—though it is a phrase apparently very dear and important to the heart of many scientists—is a wholly superficial and misleading statement.[21]

III

This brings me to the analysis of the similar claims of Moritz Schlick, one of the recognized leaders of the new movement variously referred to as logical positivism, the "new positivism", and the Viennese Circle. This movement represents undoubtedly the liveliest and most influential school of positivism in contemporary philosophy; and Schlick himself is unquestionably one of the clearest and at the same time one of the most widely read proponents of this position. Be that as it may, he has only recently[22] published an essay in which, under the title *"Positivismus und Realismus"*, he has tried to raise some of the very issues and come to terms

[19] *Op. cit.* 171.
[20] *Op. cit.* 171.
[21] I have dealt with this at some length in my paper "On the Possibilities and Limitations of Natural Science" in *College of the Pacific Publications in Philosophy* III (1934) 29-47.
[22] In 1932, in *Erkenntnis* III 1-31. (All quotations from this essay are given here in English translation by the present writer.)

with precisely such an attack on these general claims as the present effort represents. In other words, he has attempted, in his essay, a refutation of the very criticisms which are here being urged against the claims of a standpointless philosophy. For this reason he and his position offer, naturally, the best object of our attack.

On page 8 of his essay Professor Schlick says explicitly: "It would be entirely on the wrong track to view what has been said as in any sense a 'theory of meaning'; what precedes the formulation of every theory cannot itself be a theory." In acknowledgment of the specific tendency along these lines in English-speaking countries, he interjects the following parenthesis immediately after the semi-colon in the sentence just quoted: "(in Anglo-Saxon countries the insight herein developed that the meaning of a statement is determined purely and simply by its *Verifikation am Gegebenen*[23] is often called the 'experimental theory of meaning')."[24] In other words, Schlick is, of course, advancing in this essay a very definite position. I say "of course"; for it is manifestly absurd to assume that he is just writing anything at all and nothing in particular. And he must, obviously, admit the fact that he is definitely developing, maintaining, and defending a position. Moreover, he states parenthetically in a single clause what the essence of this particular position or "insight" is, namely that "the meaning of any statement is determined purely and simply by its *Verifikation am Gegebenen*". But he insists that, despite the fact that this insight is often, at least in Anglo-Saxon countries, called "the experimental theory of meaning", it is wholly erroneous to think of it as any *theory* whatsoever. And this for the simple reason that —obviously again—"what precedes the formulation of every theory cannot itself be a theory". Here, then, Schlick clearly asserts that he possesses an initial insight which is not a theory simply because it "precedes the formulation of every theory". It is, in other words, a pre-theoretical insight. Moreover, this is not a

[23] After thorough consideration it has seemed best to retain the original of this phrase "*Verifikation am Gegebenen*" even in the midst of a translation, since the literal translation into English, *viz.*, "verification on the given" (or, "on the datum"), sounds awkward, while its translation to "verification *of* the given" would decidedly change the precise meaning of the original phrase.

[24] *Op. cit.* 8, *passim.*

matter of minor or secondary importance, but has to do with the very business of philosophy. For we are previously told that "it is the real business of philosophy to seek and to clarify the *meaning* of assertions and of questions".[25] Or, to use another recent statement from Schlick's pen, philosophy "must be defined as the *activity of* finding meaning".[26] In this latter connection he quotes with complete approval Ludwig Wittgenstein's statement that "The object of philosophy is the logical clarification of thoughts. Philosophy is not a theory but an activity. The result of philosophy is not a number of 'philosophical propositions', but to make propositions clear."[27]

Now it must, of course, be kept in mind that I am not, in the present essay, concerned with the whole problem of Professor Schlick's general or detailed position, but only with that phase of his position which stoutly maintains that philosophy's task is fundamentally standpointless or pre-theoretical. That this claim is clearly set forth in the passages just quoted cannot, I think, be gainsaid. But the fact remains that the claim itself is definitely a part of a basic Schlickian position. This makes quite imperative a more thorough analysis of the wider implications of the claim in terms of that basic position, and to this further analysis we now proceed.

Let us begin by looking at Schlick's argument, as already given in quotations, in the most pointed and summary fashion possible. Philosophy, we are told, is fundamentally "the clarification of thoughts". And a thought is said to be clear when I know the meaning of the words which are contained in the sentence expressing it. The meaning of the words again, Schlick tells us, "can be clarified by means of definitions".[28] But the process of "defining", we are told, "cannot continue endlessly; we finally reach words the meaning of which cannot again be described by a [another defining] sentence; that meaning must be immediately exhibited, the meaning of the word must in the end be *shown*, it must be *given*. That is done by an act of pointing, of showing, and the shown must be given, for otherwise it cannot be pointed out

[25] *Ibid.* 6. Schlick's italics.
[26] *College of the Pacific Publications in Philosophy* I (1932) 58.
[27] *Ibid.* 60; quoted from *Tractatus Logico-Philosophicus* 77, proposition 4.112.
[28] *Positivismus und Realismus* 6.

to me."[29] It is this process of pointing to a given "matter of fact" (*Tatbestand*) that Schlick means when he states, in the quotation given above,[30] that only by its *Verifikation am Gegebenen* can "the meaning of any statement be determined". And it is this total procedure, in which he insists that the business of philosophy essentially consists, which is said *not* to contain or be influenced by any specific "theory of meaning" (experimental or otherwise), or, for that matter, by any other kind of theory, but to be entirely pretheoretical.

The reader will kindly note that, just as in the case of Nicolai Hartmann, Schlick's final refuge is the immediately "given". Having defined the real business of philosophy as that of "seeking and clarifying the meaning of assertions and of questions", he attempts to prove that meanings can, finally, be verified *only* on the immediate "given". This, to him, is so perfectly clear, simple, and obvious that he tells us: "Whoever has once gained the insight that the meaning of every statement can only be determined by the given, cannot at all grasp any longer the *possibility of any other* opinion, for he sees that he has only perceived the conditions under which opinions can be formulated at all."[31]

Through all of this argument it is obvious that Schlick takes the "given" in the strictest sense of the word as a finality (empirically speaking, of course, since metaphysical finality would be pure nonsense to him). From the very beginning he refuses to have anything to do with the (purely nonsensical) problems which have been raised by the metaphysicians concerning the "giver", the one to whom anything is given, and the "given" itself. "From the very outset", he tells us, "the positivist will obviously have nothing to do with such thoughts; the given for him is supposed to be only a word for the very simplest, for the no longer questionable."[32]

Perhaps Schlick is quite right when, later in his treatise,[33] he admits that this position is fundamentally that of "the child". For

[29] *Ibid.* 6-7. Schlick's italics.
[30] Referred to in connection with footnote 24 above.
[31] *Positivismus und Realismus* 7-8. Schlick's italics.
[32] *Ibid.* 3.
[33] *Ibid.* on 22, to be exact, where we read as follows: "What is meant when we assert the existence of any definite object of this world, every child knows; and we had to point out that it actually means absolutely no *more* than the child knows." Schlick's italics.

it does indeed seem strange for a mature thinker to suppose that anything, merely because it is given and has been reduced to its last possible simplicity, is therefore "no longer questionable". It is one thing to assert that there are some things (objects, events, experiences, etc.) which are not further analysable. That may be true. But it is exceedingly doubtful whether there is anything at all in human experience which is in no sense further questionable. We are all, of course, familiar with Schlick's answer to this statement. All such questions, as indeed all metaphysical questions, are relegated by him to the limbo of pure nonsense. They are not wrong or false; they are just meaningless. They may grammatically *look* like meaningful questions; but that is only due to their *deceptive* outward *appearance*. Questions (and statements of all kinds) only have meaning, for Schlick and his followers, if they can be *verifiziert am Gegebenen*. For that reason it is pure nonsense to ask any questions about the given itself; for such questions could be "meaningful" only if they could be *verifiziert am Gegebenen;* and so on *ad infinitum*. The *given*, in other words, can only be *taken* as it is *given*—and *no questions asked*. Even this way of putting the matter, however, Schlick would call a falsification of his meaning, since the use of the word *taken* in the preceding sentence would appear to him to be an attempt to introduce a receiving agent into the picture, which would be going back to the old metaphysical distinctions of "giver", "receiver", and "given". However, even he might possibly consent to the above sentence if I assure him that the word "taken" was used in the purely commonsense connotation "the child" has of the word, with no metaphysical implications whatsoever!

As a matter of fact, the problem before us is of far-reaching importance. I think it is literally true—and what is more, I think it can be *shown* to be true in every realm of human endeavor—that there is no human experience which is not capable of being further intelligibly and meaningfully questioned. I may admit the impossibility of reducing certain experiences further in terms of anything else or to anything else; but it is by no means clear or obvious that intelligent or meaningful questions might not be raised even with reference to such irreducibles.[34] Of course, it may be

[34] George P. Adams makes, with reference to this point, the following ob-

impossible to give—at least at present and in the light of present knowledge—any answer to such a question or questions. And, of course, Schlick would consider this as a damaging admission to our position, since he insists that every intelligent and meaningful question can also, at least in principle,[35] be answered. To this insistence I am quite willing to agree without, however, admitting that the admission is damaging to the position I have just been defending. For even Schlick grants that some meaningful questions cannot *actually* be answered. And if we admit the phrase 'in principle' into the statement, the only possible quarrel left between us (at this point, at any rate) is about the latitude to be allowed in the interpretation of this phrase. *In principle*, I should suppose, *any* meaningful question is capable of being answered. Professor Schlick, I feel confident, would agree to this statement. But he would say that the crux of the matter here lies in the word *meaningful* rather than anywhere else. Of course, he would say, any *meaningful* question is capable of being answered, at least in principle. But he would insist that all metaphysical and many other questions simply are *not* meaningful. This rejoinder reduces our real problem, then, to the meaning of meaning.

However, before we turn our attention to an analysis of this problem of *meaning*, it is necessary to carry a little farther our discussion of the problem presented by the *given*. Schlick himself, within half a page of the above quotation,[36] admits that "it is possibly still not clear what is really meant by the given".[37] And he proceeds at once to ask such pertinent questions as these: "Do any such 'qualities' as 'blue', 'warm', 'pain' belong to it [to the given, that is to say], or do relations between them or their order, for example, also belong to it? Is the similarity of two qualities 'given' in the same sense as these [*i.e.*, the qualities] themselves? And if anything given is again somehow worked over or inter-

servation with which I find myself in complete agreement: "Let it be granted that there is no single item which is not subject to some measure of doubt from some point of view. Assume that you can always find some context within which any alleged fact whatever is shorn of its indubitable factuality. Whatever factuality is ascribed to it will be *the projection of the theory or standpoint assumed.*" In "Fact and Perspective", *University of California Publications in Philosophy* XIV 212. My italics.

[35] *Cf. Positivismus und Realismus* 8-9.

[36] See the quotation in connection with footnote 32 above.

[37] *Positivismus und Realismus* 3.

preted or judged, is this working over or judgment not also again in some sense something given?"[38] In these words Schlick shows that he is quite aware of the fact that givenness is not itself a finality incapable of being questioned further, but that such *Gegebenheit* presents us only with new problems which demand solution. How, then, he explains the obvious inconsistency between his first claim concerning the given as that which is "not further questionable" and his almost immediately following admission of *some* of the real questions which might still be raised concerning the nature of the given—this the present writer is unable either to tell or to understand.

The fact remains, however, that Schlick proceeds, throughout the balance of his discussion, to take and use the "given" as an ultimate. "The criterion for the truth or falsity of the sentence", he tells us, "lies in this, that under definite (in the definitions given) conditions certain data either are there or are not there."[39] For "the meaning of each sentence is in the final analysis determined solely by the given and by absolutely nothing else".[39] Nowhere in all this discussion does Schlick seem to recognize the fact that the question whether there is a datum stands itself in need of the use of (1) criteria by which givenness may be determined or is agreed upon, and (2) criteria by which the correspondence of the given with our view of what is given is to be determined. It would appear that these matters constitute problems which no serious discussion of the "given" could overlook.[40] Moreover, even if the problem of the nature of the given were passed over, the further question still remains: how do I know that anyone, simply by being "shown" the "given", really gets the "meaning" of the word or concept which is used in referring to the "given"? It is by no means obvious that the ability to attach a certain word to a given object implies any real "understanding" of that object whatsoever.

However, as has already been intimated, the major problem at issue narrows itself down to the interpretation of "meaning" and "meaningful". Schlick's attempt to reduce "meaning" to absolute identity with "verification", and his further attempt to reduce all

[38] *Ibid.* 3. [39] *Ibid.* 7.

[40] Since this paper was written the present writer has himself attempted such a critical analysis in a paper entitled "The Nature of the 'Given'", which is to appear in *Philosophy of Science* II (1935), and a brief abstract of which may be found in *The Journal of Philosophy* XXXII 154.

"verification" to *Verifikation am Gegebenen*—both of these would appear to be purely *arbitrary* definitions in terms of a specific Schlickian predilection—and therefore, as I hasten to add at once, in terms of the very decided absence of standpointlessness!

Since, in his essay, Schlick himself begins his discussion of "meaning" with definitions of "meaninglessness", we shall follow the same procedure. Meaningless, he tells us, is only what is "logically impossible", what is "self-contradictory, and can, therefore, not be thought at all".[41] Now it certainly is not very difficult to show that this usage of meaninglessness is not only arbitrary but in fact considerably removed from the ordinary commonsense significance of the word, in which commonsense significance Schlick and the logical positivists ordinarily love to take refuge. For, in the sense here defined, nothing that man does think, has thought, or can think, could possibly ever be meaningless. For, if the meaningless "cannot be thought at all", obviously nothing that ever *is* thought can be meaningless. It is useless, yes impossible, therefore, to talk about it; for, manifestly, we cannot talk about what we cannot think. Therefore, on Schlick's own argument, there can be no meaningless questions or propositions. Moreover, the situation is no different when we take as his definition of meaninglessness the "self-contradictory". For it does not take much logical acumen to see that if the self-contradictory were wholly devoid of meaning it could never be pointed out. A self-contradiction is, obviously, detectable and showable only if it can be understood. And I have not the slightest idea what could possibly be meant by saying that something which was wholly devoid of meaning (in this case supposedly a self-contradiction) and therefore ununderstandable could yet be pointed at, much less held or entertained. Yet it is manifestly true that contradictory ideas *have* been held, yes, have been held by people thought of as philosophers. And while it perhaps could be shown that such ideas are mutually exclusive and that it is therefore logically impossible for both of them to be true or correct, it is nonetheless wholly *gratuitous and arbitrary* to say that the respective ideas or either of them was (or is) therefore meaningless. Worse than that; it is not just arbitrary, it is absurd. Contradictions are—and millions of them in the experience of the

[41] *Positivismus und Realismus* 9.

human race have in actuality been—meaningful even though they may assert (logical or actual) impossibilities. And, of course, the best proof of the validity of my contention at this point is Schlick's own argument. For if contradictions were meaningless both to him and to everyone else in the sense that they meant absolutely nothing or that they "could not be thought of at all", what a strange performance of Schlick's it is to be talking about them meaningfully and quite understandably—although, I should maintain, at the same time absurdly! His own accomplishment is the best disproof of his contention at this point; for both he and every reader of his essay who has any adequate knowledge of the German language can know quite well the meaning of what he is talking about when he discusses the supposed meaninglessness of contradictories.[42]

In the very last sentence of the argument, just preceding the final summary, Schlick again breaks out into a statement which is strangely reminiscent of Wittgenstein's Proposition number 7, when he says: "There can be arguments only for something that can be stated."[43] This is only another illustration of the point we have just been arguing. It proves only the very decided predilections of Professor Schlick, nothing more and nothing less. For if his statement were demonstrably correct, it would be easy enough to prove the impossibility of what he had just finished doing! If it is correct to say that "there can be arguments only for what can be stated", it is, manifestly, equally correct to say that there can be no arguments against things which cannot be stated. If he admits this latter proposition—and as a logician he cannot deny it without at the same time denying his own just quoted statement —I should like to ask him how he would explain the fact that he has, even in the essay under discussion, written many—meaningful —pages against things which, according to his insistence, cannot be stated? It certainly would be interesting to hear his reply. From our own point of view the answer is, of course, very simple indeed. His reasoning at this point simply proves that, when it comes

[42] May I quote, in this connection, a telling blow delivered against this same positivistic position by Donald C. Williams, who says: "The new positivists . . . must know perfectly well the meaning, in *our* sense of 'meaning', of unexperienced reality, in order to maintain that it has no meaning in *their* sense of 'meaning'—a fact which indicates to me the gratuitousness of their sense of 'meaning'." (In his essay "The *A Priori* Argument for Subjectivism" in *The Monist*, July 1933, p. 193, footnote 34.)

[43] *Positivismus und Realismus* 29.

to the defense of a preconceived theory, even logical consistency must not be permitted to stand in the way. But preconceived theory is very far from standpointlessness.

What has been said should be quite sufficient to prove the impossibility of making intelligent use of the new positivist's use of the idea of "meaninglessness". But Schlick goes to such lengths with his point in his essay, coming back to it over and over again, that it may be not only worth while but actually necessary (in order to carry conviction) to elucidate the absurdity of that use still further and to do the elucidating by means of Schlick's own examples and statements.

For example, he uses the proposition that "two different individuals experience the *qualitatively same* sensation" as a definite instance of a wholly meaningless proposition. To quote: "The sentence, that two experiences of different subjects not only occupy the same position in the order of a system, but are *beyond that also* qualitatively like unto each other, has no meaning for us. Note carefully: the sentence is not false but meaningless: we have no way of knowing what it is supposed to mean."[44] Again it would seem that, for the ordinary use of the words "meaning" and "meaningless", this statement is simply absurd. For we know very well indeed "what the meaning of the sentence is supposed to be". If I were uttering the original, supposedly meaningless, sentence, I should mean by it the proposition that someone else is having the same quality of experience when, say, he sees red as I have when I see the same color. This, it seems to me, is a perfectly sensible and intelligible meaning. It is perfectly true, of course, that we have no means whatever of verifying the truth of this meaning. But this, certainly, does not make the sentence senseless, but only unprovable in actual life.

The plain fact is that we are here, again, confronted with a decided oversimplification of the problem. It simply will not do to turn every further question and analysis aside by the categorical claim: "The assertion 'now there are two patches of the same color present' cannot be further reduced to any other [assertion]; it is verified by the fact that it describes what is given."[45] For if verification were already achieved by the mere verbal "description

[44] *Ibid.* 14. Schlick's italics. [45] *Ibid.* 13.

of the given", then, obviously, there could be no way of checking it. If I insist that I see two pieces of identically colored paper and that insistence itself constitutes the verification of what I am talking about, it is impossible to escape the question who will tell the truth if the two pieces actually are of different color. The color-blind person is an obvious case in point. No one would think of leaving the verification of what is given with the mere description of it by the color-blind.

Apropos of this same, supposedly meaningless, sentence, Schlick finally arrives at the following categorical conclusion: "Such a meaning could by no means be made the object of a discussion; one could absolutely not speak about it; it can in no wise enter into any language in which we understand each other."[46] Would it be possible to write in one sentence a better logical refutation of what Schlick says in this sentence? He tells us, apparently with serious mien and a straight face, that the qualitative likeness of the experiences of two different individuals can "not be made the object of any discussion"; "it can absolutely not be talked about" at all; no understandable language could cover such a subject. Yet he himself has just—I trust understandingly and meaningfully!—been talking and writing about this very problem. It is true that he wrote it in German, but I have not heard that German has ceased to be an understandable language! Since he has done what he tells us *viva voce* cannot be done, we need not feel so badly over the fact that we understood and were able to follow the meaning of that which had no meaning, could neither be meant nor said and therefore—according to the dictates of logic—*was* not said since it *could* not have been said!

In the long run most of Schlick's difficulties at these points go back to his insistent identification of "meaning" with "verification" (and we have already seen that by "verification" he finally means *Verifikation am Gegebenen*). In the concluding summary of his essay he states as his very first point: "(1) The principle that the meaning of every sentence is wholly determined by its *Verifikation am Gegebenen* appears to me to be the justified, unassailable core of the 'positivistic' movements."[47] This, he says, is the very heart of positivism. And earlier in the essay he gives a number of

[46] *Ibid.* 16. [47] *Ibid.* 29.

pages to prove this identity between "meaning" and "verification".[48] Now it must be admitted, of course, that the precise meaning of any given experience or event may indeed be *clarified* by its verification on the given. But to argue from the possibility of such a clarification to the complete identification of meaning and verification is simply arbitrary and wholly unproved and unprovable dogmatism. The experience of everyday life proves that, whatever it may finally be established to be by philosophical analysis, meaning is often had and at work when there is *no Verifikation am Gegebenen* at all. This, I trust, the preceding arguments have made sufficiently and conclusively clear.[49]

The idea of the given itself, however, is used entirely too uncritically by Schlick, as I have already tried, in passing, to point out. It is easy enough, with a gesture of the hand, to wave aside all so-called metaphysical questions concerning a possible giver, receiver, and the given as so much—dogmatically asserted—nonsense. All of which does *not* remove the real problems involved in a critical analysis of the nature of the given itself. To assume that when you have simply *pointed* at something given you have solved the problem of the given is nothing more or less than uncritical dogmatism. Suppose, for example, that someone questions the *Gegebenheit* of something which I consider and call given; what then? Is it not clear that givenness itself stands in need of explanation? Any possible answer to the question whether anything *is* given stands in need of the use of criteria. How, then, can the given be the empirical finality which Schlick and his followers have tried to make of it? Of course, if 'empirical' is wholly to be identified with 'physical', then, perhaps, any search for or use of criteria of any kind for anything may be considered as purely mythical; but even to do that would be to *prejudge the whole issue in terms of an initial preferential standpoint* (!) in favor of the

[48] *Cf. ibid.* 8-16, especially 11-16.

[49] Within the limits of the present essay we obviously cannot develop an entire philosophical analysis of the problem of meaning. For the present the above critique of Schlick's use of the term has to suffice. I cannot forbear, however, from pointing to the lucid analysis of this same issue and to the exceptionally clear critique of the way in which "meaning" and "verification" are used by the logical positivists to be found in the presidential address on "Experience and Meaning", delivered by C. I. Lewis before the Eastern Division of the American Philosophical Association in 1933; *cf.* this *Review* XLIII 125-146.

physical. Nor can the problem of givenness be settled without any reference whatever to criteria by which the correspondence of the so-called given with our meaning of it is determined. To say that the two are identical is not to contribute anything to the solution of the problem, but merely to sidestep the issue. The problem of knowledge, in other words, is solved here in the same dogmatic fashion in which it has been solved by all epistemological monisms: by denying its reality. Yet such dogmatic procedure has the temerity to plume itself with the feathers of claimed *Standpunktslosigkeit!*

I can only take the space briefly to refer to two or three more specific items in which the fact of a very definite standpoint in Schlick's position reveals itself. In his discussion of the problem of the "actuality of things" (physical things, of course!) he makes the following assertion: "Our principle, that the question concerning the meaning of a sentence is identical with the question concerning its verification, leads to the insight that the assertion of the actuality of a thing is a statement concerning the connections of experiences according to law."[50] What could more clearly prove his ultimate recourse to basic (yes, even metaphysical) assumptions, than this sentence? For it is absolutely impossible for *"connections* of experiences *according to law"* to be initially "given". The connections themselves may indeed be given; but that they are according to law can only be deduced by a reflecting mind. For their accordance to law itself is neither a given entity nor an experienced connection. It is, rather, the reasoned generalization to which the inherent demand for unity and for rational explanation drives the human mind from its experiences with given phenomena and with the observed regularity of their connections. In admitting "connections of experiences according to law" Schlick has, then, made it necessary to include considerations the verification of which can *never* be reduced to the mere experience of simple, ultimate physical and physiological data; so that, contrary to his claim in this sentence, he has gone far beyond his "principle" in arriving at the "insight" "that the assertion of the actuality of a thing is a statement concerning the connections of experiences according to law".

Again, in connection with his discussion of the problems of

[50] *Positivismus und Realismus* 19.

actuality and reality Schlick quotes the famous "sentence of Descartes" "I am" or, better expressed, "the contents of consciousness exist". He then points out[51] that this sentence, although it contains what is obviously self-evident, is "wholly meaningless", "it says nothing"; "it contains no knowledge". Moreover, we are told, it is impossible to investigate the existence of "contents of consciousness". Beyond that the essay informs us that "consciousness" itself is a "meaningless word", since it is physically unverifiable. Now it certainly is interesting and strange that something which Schlick himself admits to be self-evident and unquestionable can yet not be investigated concerning its existence. Contents of consciousness are said to be "self-evident and *therefore* unprovable"! If Schlick and his disciples really mean to stand by such strange reasonings they will have to come to terms with all those—and philosophy has had many and still has—who fall back on the claims of self-evidence every time they find it impossible to furnish a reliable proof for their contentions. Certainly the Viennese Circle did not mean to lend weight to such procedure! In the same connection it is also strange to see *contents* of consciousness viewed as self-evident while *consciousness* itself is said to be a meaningless, because physically unverifiable, word. This leads us to the interesting position of accepting the content of something as self-evident while the something, the content of which it is, is rejected as meaningless, sheer nonsense. But, of course, behind all these arguments lies the unspoken, but nonetheless very real and constantly applied assumption of a pure "physicalism". Schlick's completely naturalistic position does not permit him to admit anything non-physical into his philosophy as "anything at all". Yet he himself admits that his "qualities" are physically neither determinable nor describable! But, of course, he gets out of this apparent difficulty by simply *calling* these qualities the immediately "given" which, since they are irreducible, need no further description, but only need to be pointed at. This, however, as we have shown above, is no escape.

As a matter of fact, Schlick himself seems to realize that his attempt to show that the real business of philosophy is pre-theoretical has failed; for he admits, near the end of his essay,[52] that his opponents may still "have the impression that the preceding argu-

[51] *Cf. ibid.* 20 ff. [52] *Ibid.* 21-22.

ments presuppose an initial point of departure". It is true that he proceeds to argue that impression away; but I think the very fact of its being stated in the words just quoted is quite significant. Indeed, Schlick is quite right in that diagnosis of his opponents' views. Moreover, he himself admits practically the whole thesis we have been trying to establish in this paper when he opens the entire essay with this significant first sentence: "Every philosophical movement is defined by the principles which it deems as fundamental and to which it returns ever and again in its arguments."[53] Precisely! And the principles which are deemed fundamental do *not* grow out of pre-theoretical, standpointless blank minds. They are the result of definite attitudes, positions, and outlook.

The innate nature of the human mind itself dictates certain tendencies and directions from which no rational mind can ever —so long as it remains rational—free itself.[54] Beyond this humanly universal heritage, each individual mind has a very definite history which is bound to affect its outlook and approach to any problems of whatever nature. The development of one's own powers of understanding and the particular bent given by early training and interests are bound to have other very determinative effects upon the approach a human mind makes to the problems of the universe. F. C. S. Schiller has emphasized this fact very clearly in a recent essay, when he says: "The real *data*, which are truly 'given', all arise in the personal context of an individual soul: they are never the *scientific* 'data' from, and about, which the sciences argue. The latter are always *sumpta*, selected from the former, and dictated by the interests of each science; moreover, they are usually seen in the glamorous light of whatever interpretative theory happens to be in fashion. Thus it is 'objectivity' which is always factitious and fictitious."[55]

Schlick, his strong and insistent claims to the contrary notwithstanding, has no more been able to escape this fate than has anyone else. It is as clear as anything can be that he approaches the whole realm of philosophy with a strong naturalistic and positivis-

[53] *Ibid.* 1.
[54] This I have tried to urge against Bertrand Russell; see my article on "The 'Tyranny' of Reason" in *The Modern Thinker*, April 1932.
[55] From "*Must* Philosophers Disagree?" in *College of the Pacific Publications in Philosophy* II (1933) 96; Schiller's italics.

tic predilection, yes, bias. His philosophic position, so far from being initially *standpunktslos* or pre-theoretical, is, in fact, almost completely predetermined for him by his natural bent towards the physical sciences and by initial motives and dominating interests.[56]

I repeat, moreover, that this fact as such is nothing against Schlick, since the real reason for it would appear to lie in the very nature of the case and of man. Certainly Schlick is not responsible either for human nature or for the peculiar conditions and circumstances of the knowing process. But he is, of course, responsible for not seeing and for not being willing to admit these inevitabilities.

IV

It only remains now to deliver, finally, the proof for our repeated assertion that it lies in the very nature of man and of the knowing process to be unable ever to begin with the mind as a completely "blank tablet". Any situation, of whatever character, in which a more or less mature normal human being is involved, finds that being in possession of certain more or less definitely established tendencies. So far as the innate human functions are concerned these tendencies are quite similar among all normal human beings. This is as true of the basic principles underlying the functioning of men's minds as it is of those fundamental human drives which used to be known as instincts. Beyond these, however, there exist as great varieties among men as there are individuals. This fact is well known to us even in the matter of external appearance. It is, obviously, just as true of mental background and history and therefore of attitude, outlook, temperament and point of view. Since no two human beings have either identical heredity or identi-

[56] As must be clear to anyone who has read the essay on *"Positivismus und Realismus"*, the present discussion has made no attempt whatsoever to deal with the major argument presented by Schlick. Neither the problem of the precise nature of the reality of the external world nor that of the respective ways in which realism and logical positivism take that reality has even as much as been mentioned in our discussion. The reason for such omission is, however, obvious. The present essay is only concerned with one specific claim made by Schlick and by other philosophers, namely that to *Standpunktslosigkeit;* and it is only because this particular essay from Schlick's pen contains more than the ordinary amount of insistence upon this claim and repeatedly tries consciously to defend itself against any attacks on such a claim that we have limited our discussion of Schlick's claims in this direction to this particular essay. But we wish to have it understood that no discussion of the major arguments of Schlick's essay is intended here.

cal upbringing and training, it is quite inconceivable that any two should reach maturity with identical temperament or viewpoint.

All of this is so obvious that it may seem strange that it should be mentioned at all. Certainly none of the philosophers under discussion in the critical part of this paper would raise the least question concerning these facts. True enough. But a man like Schlick would certainly insist that the goal of "scientific objectivity" requires precisely that all such merely subjective differences in background and outlook be not only definitely held in check but, in so far as at all possible, definitely overcome. All merely subjective elements and tendencies, in other words, are to be overcome and ruled out in achieving "scientific objectivity". At this point our real disagreement begins to appear. I can see no possibility of separating mature men from what they have come to be. They can no more deny the reality and effectiveness of their heredity, background, upbringing, and education, than they can deny or wish away the color of their skin. Either attempt appears to me to be equally foredoomed to failure and therefore equally ridiculous.

This being the case, every mature man steps up to any situation or problem in the light of his total nature and being. As a result he cannot help viewing the situation or problem from the specific standpoint which he occupies in the light of all of his past experience (pre- as well as post-natal). It is simply humanly impossible for him to do anything else. If this not only *is* so but *has to be* so universally, neither science nor philosophy can possibly claim any exemption. It is human nature, to which the philosophers and scientists are just as much subject as are all other human beings. Consequently, even from such a merely superficial point of view, *philosophical standpointlessness is impossible.*

However, we are driven to the same general conclusion when we view the problem from the epistemological instead of from the merely psychological point of view. It is a neat claim to assert that the human mind simply finds itself confronted by given facts in all their nudeness, crudeness, brutishness, and original nature. Moreover, it might be very nice and handy if it were so. The only trouble is that it just is *not* so. There are no such things as brute facts, if by this be meant something wholly uninterpreted. Brute facts are just as incapable of existing as would be non-appearing

phenomena; both phrases contain an inherent self-contradiction. The word 'fact' itself already contains a human judgment just as truly as the word 'phenomenon' implies something which appears. For, as the writer is in the habit of saying to his students, all facts are selected facts and all facts are already more or less interpreted facts. This statement must not be interpreted as an admission of or concession to idealism. I am not claiming that *things* depend for their *existence* upon mind or upon being experienced by minds. We are not concerned with any such problem. All I am saying is that as soon as the factuality of anything is asserted, we are, most obviously, confronted with a judgment, and that, for this reason, the claim to brute factuality contains an inherent self-contradiction in its attempt to claim both factuality and independence of judgment at one and the same time.

Nor are we, fundamentally, any better off when, in place of brute facts, we attempt to use simple *Gegebenheit* as an ultimate point of departure, not further reducible or questionable, and wholly uninterpreted. It is all very well for the sworn enemies of any and all metaphysics to rave against the so-called meaningless distinctions of giver, given, and receiver. But I am still in search of the philosopher who can explain to me what anything given possibly could either be or mean if there is no one and nothing to whom or to which it is given. This, so far from being a mere play on words, is based on the very insistence that words shall not be thrown about vaguely and meaninglessly but that their precise meaning shall be ascertained and adhered to when they are used. To attempt, therefore, to separate the given (no matter what the given may be in any specific instance) in some absolute fashion from the receiver is just one of these wholly uncritical, not to say un-philosophical and un-scientific, procedures in which some philosophers would ride roughshod over the difficulties and problems presented by the whole knowledge-situation. The solution to the epistemological problems thus offered is, of course, wholly spurious; so far from having solved the problems, such attempts have reached their apparent success only by either blissfully overlooking or by categorically denying the nature of the problems. Any attempt to explain the nature of the given would appear to us to require an analysis and understanding of the nature and receiving

functions of the receiver. There is no human way out of this necessity. All givenness, in other words, is already, in its being given to or for someone, qualified in *its* nature by the nature and receiving functions of the recipient. This being the case, there is no such thing as givenness which is its own untouched and unqualified and ununderstood and uninterpreted self.

I think enough has been said, both by way of argument and by way of demonstration, to make the case quite conclusive. Both from the examination of leading living philosophers who make the claim to *Standpunktslosigkeit,* and from the analysis of the possibilities of the knowing process in this connection, it is clear that *standpointless philosophy,* or, for that matter, standpointless anything else in the human knowledge-situation, *is impossible.* Moreover, it is not simply impossible because the champions of such *Standpunkstlosigkeit* have been unable to achieve their goal in actual practice and performance; to use once more a good Schlickian phrase, it is *impossible in principle.* That is to say, it is impossible because human nature and the functions of man's knowing processes are so constituted that it is out of the question for any normal mature mind to approach any problem or task with his mind a mere *tabula rasa.*

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THE PARADOX OF CERTAINTY

THE scientific world presents to the logician a curious paradox. According to the standards of logical correctness, there is no accepted logical procedure that can produce results worthy of unquestioned acceptance, and yet many results of modern science have fought their way against the most extreme opposition to universal acceptance on the part of all intelligent persons.

The more we consider the foregoing paradox, the more extraordinary it appears. Ever since Hume exposed the inadequacies of empirical induction, logicians have been explicitly seeking for an indubitable logical procedure; yet none of the many procedures that have been suggested has won any large acceptance or has shown itself worthy of unquestioned acceptance. What one generation has accepted, the next has thrown away. The early modern period discarded the reliance upon authority or faith that characterized the medieval period, and began by trusting intuition. But, as Schiller has said, intuitions have been found to be the property of "geniuses, ladies, and lunatics", whose deliverances are so incompatible with each other that today few but despairing metaphysicians put their trust in intuition. The discovery of the non-euclidean geometries has shown that supposedly self-evident truths are mere convenient assumptions, and that there are other self-evident truths which might just as well be assumed, incompatibly with any supposed set. In a similar manner, *a priori* truths, once the chief reliance of those who desired a secure foundation for mathematics and science, have likewise been shown to be either dogmatic assumptions or else merely the fundamental presuppositions of some philosophy that need not be accepted. The Will to Believe, once proposed as a foundation for science, has come to be called an essentially dishonest clinging to a pleasant belief, and the pragmatic method is today admitted not to lead to certainty. Coherence, today widely accepted, besides being a vague, ill-defined concept, is a characteristic that may belong to a non-euclidean geometry or to an extended piece of fiction, as well as to the truth. Empirical induction, once proposed by John Stuart Mill as a sure foundation for science, is now recognized never to lead to certainty. Thus there is left no secure logical method whereby any science or philosophy can be sure of its correctness.

The current view is usually that, although certainty cannot be attained by any empirical method, nevertheless probability can, so that we can say, "The great bulk of our empirical knowledge is overwhelmingly probable".[1] Various rules have been elaborated for the calculation of probabilities, so that we are supposed to be able to calculate, for example, the precise probability of the sun rising tomorrow. Even though certainty is nowhere available, probability is said thus to be available, upon which scientific, empirical results are said to be based.

Whether any probability can be had on the assumptions from which such an argument proceeds is, however, very doubtful. For the formulae used in these calculations of probability or the assumptions implicit in a non-numerical statement of probability are derived from premises which are themselves doubtful, since no certainty is said to be available. Hence not only is induction uncertain, but the probability of those inductions is itself based on uncertain foundations. Hence the probability itself is uncertain and evaporates because of the insecure foundations for the whole theory. If, on the other hand, certainty is to be had for the premises upon which these calculations of probability are based, then how is that certainty attained? It can only be attained by one of the discredited methods that we have previously discussed. Then the very probability of scientific results either depends upon some doubtful epistemological or logical method or else is itself uncertain. Unless sure objective foundations can be found for the theory of probability itself, any probability of empirical inductions is itself unsure, a merely mathematical amusement, no more certain than a non-euclidean geometry.

Long ago Hume pointed out that no definite probability could be stated for any empirical induction, and that any given probability can itself be doubted, so that, by successive diminutions, the greatest probability of any statement must be reduced to infinite doubt.[2] It has elsewhere been pointed out that, if no certainty is anywhere attainable, no probability can be attained, because any definite probability is itself only probable, resulting in a probability of a probability which itself is again only probable, so that the total probability of any statement is an infinite product all of whose

[1] D. Drake, *Invitation to Philosophy* 72. [2] *Treatise* I iv 1.

numbers are less than 1, with the consequence that any probability reduces to an amount closer to zero than any definite number.[8] Unless some certainty can be had to stop the infinite series of probabilities, nothing can be said to be more probable than anything else, and the statement that the sun will *not* rise tomorrow is just as probable as the statement that it will. The same result can be reached more simply by the consideration that all statements of probability themselves claim to be true and certain; unless certainty is attainable for these statements, there is properly no statement of probability that can be made.

Modern logic has thus no recognized method whereby any scientific result can be shown to be correct. As a logical consequence, scepticism should prevail, all science should be doubted, and none of its consequences should be accepted as anything more than entertaining fairy-stories not binding upon anyone. With no certainty available, and only a doubtful probability, no person should be considered unintelligent or untutored if he refuses to accept any of the results of modern science.

Yet precisely the opposite is the case. Certain scientific claims, such as that the earth goes around the sun or the theory of biological evolution, are so well established that anyone who does not accept them is laughed at, and any body of people who reject either of them is put down as uneducated and unenlightened. If science can produce only probability, biologists are unjustified in holding that any species is descended from any other species, and should be deservedly punished for teaching a doubtful and uncertain theory as an accepted fact. Yet even intelligent logicians laugh at a state legislature that refuses to accept this scientific theory.

When the history of science is carefully considered, the results of science certainly do not appear as if they were uncertain or merely probable. Even granting the usual view, that induction can bring probability, a probable statement, no matter how great its probability, is one the contradictory of which is quite possible and cannot be excluded, so that no one should be criticized for refusing to accept it. Yet certain scientific views have fought their way into general acceptance against the greatest possible obstacles, not because of any fashion or fad, but merely because of the nature

[8] H. H. Dubs, *Rational Induction* 108.

of their proof. We are not speaking of the theory of relativity or Heisenberg's principle of indeterminacy, for important and intelligent scientists are still unconvinced of these doctrines, but of such things as the Copernican astronomy and the theory of biological evolution. The first of these was attacked by the greatest power for the moulding of human opinion the world has ever known, the Roman Catholic Church; its proponent, Copernicus, was made to declare in his preface that it was merely a hypothesis; the man who did the most to establish it, Galileo, disavowed it; nevertheless, because of the convincing nature of its proofs, it continued to gain converts, until finally all opposition has been withdrawn and any person who rejects it today receives the same kind of journalistic publicity as the man who bites a dog. The second of these two scientific doctrines has commenced a similar triumphant march—in the beginning it faced bitter opposition from even great scientists, such as Agassiz; but today anyone who dissents from it is laughed at by the intelligent world.

Logic has thus provided no adequate and accepted method of attaining anything that even approaches certainty, not even any definite probability, whereas natural science has attained results that have swept aside all opposition and secured the unanimous consent of all intelligent persons. The uncertainty of the empirical and other methods is inadequate to account for the world-moving character of modern scientific results. Whatever the method of scientific proof is, it would seem to behoove logic to discover the precise nature of this method, and philosophers to use it and end their utter disagreements.

It is only natural to conclude that the sciences have been using a method of proof more powerful and more sure in its operation than any that logic has as yet analysed. What this method is, would seem to be the pressing problem for contemporary logic and philosophy.

Yet we can hardly revise the traditional criticism of logical methods. Intuitions, *a priori* truths, and suchlike expedients have deservedly failed to secure any universal acceptance. Hume's destructive criticism of empirical induction stands firm. If science is using a sure method of proof, that method must be different from any that the traditional critics of logic have recognized. The pur-

pose of this paper is to suggest the nature of this sure scientific method.

Since the time of Mill there has come about among logicians a gradual recognition of what has been called the method of hypothesis. This recognition was due, first of all, to Whewell, and to Mill's open-minded recognition of the truth embedded in Whewell's confused theory; no important logician has however as yet explored the possibilities and precise nature of this method. Its wide recognition has been due, not to its espousal by any outstanding logician, but to the growing recognition that it is really used in science. The steps in this method are well understood; they are: (1) the formation of a hypothesis, (2) the deduction of its consequences, (3) the checking of those consequences with experience, and (4) the judgment of its verification. Because this method is a method of induction, the judgments that Hume visited upon what he called induction have been uncritically visited upon this method too; it has been said never to produce certainty, to give only probable results, and to be disproved by a single exception.

Had a careful examination been made of this method, these common beliefs would have been found to be false, for there is a marked difference between the method of induction proposed by Hume and induction by hypothesis. Empirical induction, by which we mean the method of Bacon, Hume, and Mill, results in a statement of experienced uniformities, as when vaccination for smallpox is followed by freedom from smallpox (Jenner's discovery) or when dropping a stone is followed by a certain accelerated velocity of the stone (Galileo's law of falling bodies). Empirical induction can therefore never discover anything but mere uniformities, for it deals only with what can be directly observed.

It is however a remarkable fact that modern science has not confined itself to matters of immediate experience, but has asserted the occurrence of events and entities that cannot be experienced. The revolution of the earth around the sun and biological evolution are two notable instances of events that can never come into human immediate experience—yet they are precisely the scientific results we have found so cogent in compelling intelligent assent. Similarly the molecule and the electron, whose existence was

denied by the positivistic physicists a generation ago, such as Mach, because they could not be experienced, are today accepted by even the most conservative physicists as actually existing entities. Yet empirical induction, which consists in establishing uniformities of constant conjunction among immediately experienced events, cannot establish the existence or occurrence of non-experienced events or entities. Only the method of hypothesis is equal to that task. Since that method makes conspicuous use of deduction, the traditional *ratio,* let us call the method of hypothesis by the name *rational induction,* to contrast it with the empirical method of Hume and Mill.

Empirical induction thus results in the statement of some uniform sequence of events that is observable, whereas rational induction endeavors to establish some entity or relationship that connects and explains observed events. Empirical induction states only the occurrence of one sort of event; rational induction asserts a hypothesis from which can be deduced many sorts of events, so that it generates a system. The law of Boyle, that the pressure of a gas varies inversely with it volume, is empirical; the kinetic theory of gases, that all gases at the same temperature, pressure, and volume, are composed of the same number of rapidly moving molecules, is rational—it enables the deduction, not only of the law of Boyle, but also of that of Charles and many other phenomena. Logically the most important feature of rational laws is that they enable the deduction of many kinds of experienced consequences, thus generating systems, whereas empirical laws enable the deduction of only one kind of consequence. Rational and empirical induction are thus logically different in character, and the same degree of logical verification should not be expected for both. The scientific laws we previously noted as showing a world-convincing power, so inexplicable to contemporary logic, are rational hypotheses, not empirical ones. This fact points to the possibility that a rational induction can be completely verified, although an empirical induction cannot.

How then could it be possible for a rational hypothesis to be completely verified, if the procedure in establishing it must be that of deducing its consequences and then checking them with experience? Must not such a procedure commit the fallacy of affirming

the antecedent? If however it were possible to show that some one hypothesis and that alone is able to deduce the consequences that are found in experience, that hypothesis could be established as true. That is, if a certain hypothesis could be shown to be the only possible antecedent for certain sets of events that are actually immediately experienced, that hypothesis could be known with certainty to be true. It is said however that in general it is impossible to establish such a relationship, because the same circumstance may be due to a number of possible antecedents. It is nevertheless theoretically possible to state the circumstances under which antecedents could be discovered by considering consequents. If our universe were a simple one, in which any cause produced only one effect, it would indeed be impossible to distinguish antecedents by examination of their consequents; but if, instead, our universe is very complicated and rich in variety, so that each cause produces many effects, and that, when the various consequents of each antecedent are completely traced out, no two antecedents produce exactly the same total set of consequents, then it would be possible to distinguish exactly what antecedents are operating, by means of a wide examination of consequents, even though the same effect may be produced by more than one cause.

There is every empirical evidence to show that our existing universe is of the complicated sort necessary to fulfil the above condition. The verification of a hypothesis then consists in considering all possible pertinent hypotheses, deducing their consequences, and comparing each set of consequences with immediate experience. Critics of induction, however, like Bertrand Russell, have admitted that in theory this procedure would verify a hypothesis completely, but they have denied that it is ever possible to think of all possible hypotheses. Russell writes, "In general, there will be no method of thinking of all possible hypotheses, or, if there is, it will be found that more than one of them is compatible with the facts."[4]

In order to understand how it is possible to discover and consider all possible pertinent hypotheses, it is necessary first to consider another feature of rational induction, which is totally absent from empirical induction. Because rational hypotheses use deduction, it is frequently possible to deduce one hypothesis from an-

[4] B. Russell, *Scientific Outlook* 68.

other. We noted that Boyle's law, an empirical hypothesis, is deducible from the kinetic theory of gases, a rational law. Similarly, Kepler's first law, that all planets move in ellipses, which is itself a rational law, is deducible from Newton's law of gravitation, another rational law. In such a situation, it may be said that Newton's law is superimposed upon Kepler's, or that Newton's law is a *superimpositive hypothesis* with respect to Kepler's. Likewise Kepler's law may be called a *derivative hypothesis* with respect to Newton's.

The precise relationship between a superimpositive and a derivative hypothesis deserves careful examination. Because the superimpositive hypothesis is more inclusive than the derivative, it deduces phenomena that modify the derivative hypothesis and are exceptions to it. No planets do follow paths that are exactly ellipses, as Kepler's first law requires—their paths only approximate ellipses. Newton's law however deduces these deviations from Kepler's law—such perturbations are due to the attraction of other planets, which pull the planet out of its elliptical orbit. That is, Newton's superimpositive hypothesis is able to deduce exceptions to Kepler's derivative hypothesis. Nevertheless, Kepler's first law, the derivative hypothesis, is not false; it is used by astronomers today as much as ever; Newton's law shows that Kepler's law would be exactly true if there were only one planet and the sun—the presence of other planets produces these perturbations. That is, if we neglect the influence of other planets, Kepler's law is true; it is therefore not false, but merely limited in the range of phenomena to which it is applicable.

A similar relationship holds between Newton's law and Einstein's theory of relativity. The theory of relativity is superimposed upon Newton's law, so that, for all ordinary circumstances, Newton's law is approximated to a very high degree. Furthermore, according to Einstein's theory itself, in the absence of matter, space is Newtonian, that is, Newton's law is exactly obeyed and remains true in regions far from matter. In other words, if we neglect certain phenomena due to the presence of matter, Newton's law is exactly true. Einstein's theory is thus superimposed upon Newton's law in precisely the same way that Newton's law is superimposed upon Kepler's first law. Just as Newton took into

consideration additional phenomena, due to the attraction of other planets as well as that of the sun, so Einstein takes into consideration additional phenomena due to the presence of matter. Even were the general theory of relativity verified (something which has not yet been done), Newton's law would still remain true, although Einstein has deduced three exceptions to it, just as Kepler's law remains true. It is thus sometimes possible for a rational hypothesis to have exceptions, and for the rational hypothesis still to remain true, because those exceptions are deduced from a superimpositive hypothesis. An exception does not therefore necessarily overthrow a rational hypothesis. The progress of modern science has indeed consisted largely in discovering exceptions to its accepted scientific laws, and then discovering superimpositive hypotheses to account for those exceptions. Thereupon the derivative hypotheses are retained, with the understanding that they are true, but limited in their application. This fact makes us revise our conception of the logical relation between hypotheses and their exceptions, for exceptions thus do not always indicate the falsity of a hypothesis.

We are now ready to consider more fully the exact nature of various sorts of hypotheses, and to determine what sorts of hypotheses are pertinent alternatives in the logical proof of a given hypothesis. We may now ask the question: when we attempt to prove a given rational hypothesis, what sorts of alternative hypotheses must we consider in order to be sure that we have considered all the pertinent possible alternatives to this particular rational hypothesis?

In the first place, it is not necessary to consider any merely empirical hypotheses as alternatives to a rational hypothesis. For empirical hypotheses, by their own nature, can never be completely verified until they are deduced from a verified rational hypothesis. Bertrand Russell, in the passage from which we previously quoted, gives as an example the hypothesis, "All cats have tails" and follows it with the observation that Manx cats have no tails. The statement, "All cats have tails" is not however a rational hypothesis, since it deals merely with a sequence of experienced events—the perception of a cat being accompanied by the perception of its tail. Lord Russell evidently does not realize that such a hypothesis is

not typical of the more advanced sciences. This empirical hypothesis does not allow the deduction of any variety of consequences, as Newton's law or Einstein's theory does; it merely permits the deduction of *one* circumstance, that when you find a cat it will have a tail. The first Manx cat would indeed overthrow such a generalization. This exception would not however affect the truth of the superimpositive rational hypothesis, namely that all species and varieties of cats are descended from one primordial species of vertebrate, which had a caudal appendage. Empirical hypotheses thus are not alternatives to rational hypotheses.

Since an empirical hypothesis merely connects one phenomenon with another without giving any explanation of the connection, the number of empirical hypotheses possible is as large as the number of possible pairs of observable phenomena—which number is very, very large. Hence the critics of induction are quite correct in saying that it is impossible to think of all possible hypotheses, for the number of possible empirical hypotheses alone is extremely great. These are not properly alternatives to a rational hypothesis, however, so that this objection loses most of its force.

In the second place, it is obviously unnecessary to consider any derivative hypotheses, that is, those that can be deduced from any given hypothesis, for they are true when the given hypothesis is true and may be either true or false when the given hypothesis is false. In the third place, it is unnecessary to consider any superimpositive hypotheses, that is, those from which the given hypothesis can be deduced, because these superimpositive hypotheses may be true or false when the given hypothesis is true. Hence Newton, in verifying his law of gravitation, was under no logical necessity of considering either Kepler's first law (a derivative hypothesis) or Einstein's theory of relativity (a superimpositive hypothesis), for neither one is properly an alternative to his law. It is sometimes said that any astronomical path or physical formula that can be represented by an equation of the second degree may be represented by equations of a third and higher degrees too, so that it would be impossible to be sure that an equation of the second degree really represented the situation. This objection misunderstands the logical requirements for verification: these equations of third and higher degree are superimpositive hypotheses that may

be superimposed upon the equation of the second degree, and so are not properly alternatives to it. While the establishment of a superimpositive hypothesis is always a great step in scientific progress, that superimpositive hypothesis is no real logical alternative to its derivative hypothesis.

There remain only, as alternatives to a given rational hypothesis, those other rational hypotheses that are neither derivative nor superimpositive. These may be called *coördinate hypotheses*. It is furthermore true, that the broader the given hypothesis, the smaller the number of possible coördinate hypotheses. Not even all of these are however pertinent, for most of them deduce results quite different from the observed phenomena, and so may rightly be neglected. The only coördinate hypotheses that are really significant are the few that, directly or together with other hypotheses, deduce phenomena substantially the same as those observed. The larger the number of observed phenomena, the smaller the number of pertinent hypotheses. Hence, with a wide knowledge of facts, it will usually be necessary to consider only a very few pertinent hypotheses. For Newton, for example, it was necessary only to consider Descartes' theory of vortices and a few more hypotheses—something that Voltaire was quite able to do. The keen competition of savants, together with the publication, in scientific journals, of suggested pertinent alternative hypotheses, usually brings to the front with reasonable promptness all the coördinate alternative hypotheses that really need to be considered.

As an illustration of this circumstance in a field in which it might not be expected, let us consider the objections to Descartes' philosophy that he published together with his work. The brilliant century following Descartes was largely occupied in criticizing his presuppositions and suggesting alternative hypotheses—yet all of these criticisms are to be found, at least in germ, in the criticisms of Descartes' contemporaries that he published together with his writings. This remarkable fact shows how natural to the human mind is the procedure of rational induction.

There is therefore no insurmountable theoretical obstacle to the complete verification of rational hypotheses, although in concrete cases many rational hypotheses have not been verified, owing to a lack of adequate deduction of a wide variety of consequences,

or to failure in considering enough coördinate hypotheses, or, most often of all, to a lack of sufficient observed data. It must be confessed that only in the physical sciences have many rational hypotheses as yet been verified. Modern science is still in its infancy, and metaphysics, the most complicated and difficult of them all, is perhaps the least advanced of all. Science begins with empirical laws, and only proceeds to rational laws as it develops. It is consequently not surprising that Bacon and Hume, the one writing when modern science was just beginning and the other ignorant of contemporary science, should have seized upon empirical induction as characteristic of science, instead of realizing that another procedure, rational induction, characterizes it much better, although it is not always used.

It may be objected that we have not yet been able to prove the uniformity of nature. When applied to rational hypotheses, the phrase, uniformity of nature, is misleading, for rational hypotheses do not state uniformities, but explanations. For rational induction there need be no repetition of any event, so long as its occurrence is duly noted, since rational induction requires merely a wide variety of observed events. Instead of the uniformity of nature, rational induction assumes a broader generalization, the eternity of truth, that what is once found true will remain true. This principle is assumed, not only in induction, but in deduction too; without its assumption no reasoning can proceed. Unless the critic of inductive method assumes this principle, his criticism is vain, for it may at any time lose its force. There can therefore be no objection by any critic to the assumption of this principle.

In its proof, this principle is however as yet merely empirical, and hence not certain. There is therefore an empirical factor still mixed in even rational hypotheses, so that it can still be said (even when we tacitly assume this principle) that no rational proof is wholly certain. There is indeed little ground for doubting the truth of this principle; it is better established than any other empirical principle. Many empirical hypotheses, such as Boyle's law, have furthermore been proved exactly true by deduction from a verified rational hypothesis, so that we cannot infer that a merely empirical principle cannot be certain and sure. The devastating power of Hume's criticism was not due to the fact that the uniformity of

nature is a merely empirical principle; it was due to the fact that he assumed there is no method of proof other than the empirical, so that, according to him, there could be no possible complete proof for that principle. We are in quite a different situation; for, were the necessary facts available, it would be quite possible to verify a superimpositive rational hypothesis to the empirical principle of the eternity of truth. Such a proof has not yet been given, for the needed facts are not available. If the theistic hypothesis were established, the eternity of truth could be deduced from it; other superimpositive hypotheses are also possible. Consequently Hume's criticism does not have for us the devastating power it had for his generation—he implied that the needed principle could never be established; we need merely confess that it is not yet established, and can declare that the logical method whereby it could be completely established is at hand, but is merely not yet used. In the present early stages of science, we ought not to expect the verification of many rational hypotheses.

The logical method of rational induction, meaning thereby the hypothetico-deductive method, thus enables us to solve the outstanding paradox between scientific method and logic—that science seems to have achieved certain and universally convincing results, whereas logic has not admitted any methods by which that sort of results could be attained. We have seen that a fuller understanding of rational induction and of the logical nature of scientific hypotheses enables us to answer the chief objections to this method. Other objections and misconceptions are dealt with elsewhere.[5] The recognition of this method of proof should make us radically change our conception of science and scientific method—an exception does not always disprove a hypothesis—and enable us to round out the theory of logic as a systematic whole.

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[5] H. H. Dubs, *Rational Induction* and also *Students' Logic*.

SOME PRE-CRITICAL DEVELOPMENTS OF KANT'S THEORY OF SPACE AND TIME

AN examination of the natural philosophy of the seventeenth and eighteenth centuries reveals an important difference between Continental and English theories of space and time. This difference has usually been taken as best represented in the work of Leibniz in Germany and Newton in England. The theory advanced in the *Transcendental Aesthetic* has been the standard reference for an effort to resolve the older issues. But it was notorious that in spite of the domination of Newtonian space and time in natural science this space and time had lost definite philosophic influence. Science continued to work in Newtonian terms, philosophy in Kantian. This condition prevailed until a little before the beginning of the present century, when there occurred efforts to reconstruct space and time in terms of relativity for science and realism for philosophy. Definite historical questions emerge from this material. What are the stages, if any, in Kant's study of space and time, that preceded the theories now found in the *Dissertation* and *Critique of Pure Reason?* Do these early theories show a knowledge and examination of Newtonian and Leibnizian opinion? Is there a common background or a common problem which led Kant and Newton and Leibniz to their conflicting results? Can any origin be found from which it is possible to trace developments which, when completed, present such remarkable contrasts? After Kant had effected changes in the older philosophies is it possible to find remains that enable us to criticize his theories from a Newtonian or Leibnizian standpoint? This paper is an attempt to obtain from the history of philosophy and a study of Kant's early writings some material for possible answers to these questions.

The space and time of Newton and Kant have their origin in the geometrical world of Descartes where space was the extension of body, time the measure of motion. This answer appears to have predominated on the Continent until Leibniz, protesting against the English Newtonians, advanced the conclusions now found in his letters to Clarke. As I have tried to show elsewhere,[1] the first

[1] *Columbia Studies in the History of Ideas* III, New York, 1935.

criticism of Descartes' theories of space and time was from Henry More, and in this criticism space and time became definite, existing entities. His work is primarily a defense of spirit, and space and time appear independent of matter as attributes of God. Equally important is the correlated conclusion that impenetrability and not extension defines matter. Through Barrow these theories were transmitted to Newton, and space and time acquire in his *Principia* and *Optics* the divisions of absolute and relative. The impenetrability of matter yielded the notion of mass and the final materialism of absolute, indestructible particles. Confused with this historical acquisition of absolute space, time, and matter is the logical derivation of the first two from the requirements of the third. Space and time are attributes of God though implied by the definition which makes matter absolute particles related externally. From this point of view God's omnipresence and eternality provide the ground for Newton's scientific objects.

The chief exception on the Continent to Descartes' theories is Gassendi's effort to make space and time a *tertium quid* with respect to substance and attribute. This has sometimes been taken as influencing Newton, but the similarity at best is weak, and, so far as I know, Newton makes no mention of Gassendi's work. Furthermore, the effect of Gassendi's protest against Cartesian space and time was unimportant in the formation of Continental theories concerning the foundation of physics. His work is an anti-clerical materialism which reappears in Helvetius and Holbach, and was no more a philosophy for science in France and Germany than in England.

Cartesianism and Newtonianism thus appear as the earlier elements in the background before which Kant was to construct his own system. Until Leibniz questioned these philosophies we find that there are two disparate strains of thought. On the Continent physics does not treat of time and space as independent entities although space and time are a part of its philosophy and scientific method. In fact, they continue as Galilean principles, and in his definitions Descartes advanced nothing that destroyed space and time as effective principles for the mathematical treatment of body. This identification with body and motion emphasizes more clearly than the English theories the part that space and time actually

were playing in physics. In contrast to this, English philosophy treats of principles according to a Platonic empiricism; the means whereby measurement and observation are possible is itself an object of measurement and observation. Continental Platonism, on the other hand, shows the rationality of Augustine and reaches its clearest expression in Malebranche.[2] In this way we may justify a discovery of both Platonic and Aristotelian influences in Descartes. The definition of space and time in ordering the observed changes of matter makes space and time principles not only in things (Aristotelianism) but in the mind of God (Platonism).

The philosophy of Leibniz is an incomplete attempt to reduce the dissimilarities mentioned above. His speculations give the first intelligent criticism of Newton and make clear the assumptions of British empirical science and philosophy. Indeed, this is the first major crossing of Continental rationalism and English empiricism since the conflict of Duns Scotus and St. Thomas. As developed in the semi-scholasticism of Wolff and his school it afforded Kant a third source for his development. It became necessary for him to compare Descartes, Newton, and Leibniz, if his philosophy were to be anything more than the formal development of these systems. Consequently, his pre-critical writings are concerned with an examination of the claims of Leibniz, Descartes, and Newton. Their writings are the primary sources for his development and from his study of them emerges the newer viewpoint of the *Dissertation* and *Transcendental Aesthetic.*

In his treatment of space and time Leibniz is justly famous for making clear the rational meaning of scientific principles. In his opinion, space and time were rendered vague by the influx of Newtonianism. A principle that could be seen and measured carried with it its own refutation. The classic division of principles and things is comparable to the equally classic division of subject and predicate. To the extent that Newton had forgotten the former distinction there was opportunity for neglecting the second. But a philosophy that makes space and time attributes of God is obviously working with the old logic. Yet this kind of treatment ceases with God's attributes, for such attributes do not become subjects. With

[2] *Cf.* Randall, *Religio Mathematici: The Geometrical World of Malebranche. Columbia Studies in the History of Ideas* II, New York, 1925.

Leibniz the entire problem has different orientations. If space and time are things, they are subjects, and if subjects they have predicates; but the ensuing difficulties destroy such an hypothesis at once. What can be predicated of space and time when no higher genus is available? On these grounds there is reason for denying them as things, and such a consequence is demanded by the metaphysics in which all is substance. But from the needs of scientific methodology other arguments were available. The changes of matter were to be described in terms of space, time and mass. The Newtonian physics had found the first two of these implied in the definition of the third. To this extent there was no need for proofs of the existence of absolute space and time. Now it is important for Leibniz, if substance is to be preserved, to show that definitions of matter do not imply existing space and time. This is accomplished by showing the difference between Newton's matter and his own substance. The former is absolutely discrete while the latter is relatively conjoined. Space and time, no longer needed as things by the definition of substance, are such that they cannot be things at all. Leibniz advances to a new position which places his metaphysics completely at the disposal of his mathematics and philosophy of science. Space and time are the relations subsisting between bodies as bodies are separated or moving relatively with respect to one another. However, it is important to note that Leibniz only advanced to his notions of space and time as relations when he had redefined ultimate scientific objects as monads.

With a knowledge of these developments Kant begins his work, and in the beginning his attention is devoted to current concepts and problems of physical science. His first publication analyses a purely Continental problem which states the merits of Leibnizian and Cartesian definitions of force.[3] His examination proceeds without reference to English opinion. The difficulty can be stated briefly, for the materials of the discussion were provided by the respective merits of the two formulae $F = mv$ (Descartes) and $F = mv^2$ (Leibniz). As we see now, the first definition defines force as a function of the time during which the force acts. In the

[3] *Gedanken von der wahren Schätzung der lebendigen Kräfte.* First published 1747. Selections translated by N. K. Smith in *Kant's Inaugural Dissertation and Early Writings on Space,* translated by Handyside, Chicago, 1929.

second definition Leibniz treats force as a function of the space transversed. We use the first equation to express momentum; the second, in the form $mv^2/2$, is the customary notation for kinetic energy.[4]

For Descartes the totality of motion was constant and initiated by God. This motion, like extension, was a property of body. Leibniz, with a different philosophy of space, defined motion as a change of position. Only the quantity of force is constant, since motion has no meaning independent of bodies located with respect to other bodies. For Descartes the motion *per se* of a body, for Leibniz the energy of motion, is significant.

Kant's reaction to this is important as it indicates his opinion on the kind of space and time necessary to reduce the difficulty. His conclusion draws a distinction between "mathematical body" and "body as it exists in nature". Mathematics treats of body so that it "does not allow in the body with which it deals any force which is not completely produced by that which is the external cause of its motions".[5] And since this force is proportional to the force of the cause, Descartes' formula is correct. But body is more than its mathematical formulation: "It has in itself a power of increasing the force which is awakened in it through the cause of its motion. Consequently, it can have degrees of force not due to the outer cause of its motion."[6] Thus mv^2 might describe one such combination of externally and internally compounded forces. This result seems motivated by the influence of Leibniz's treatment of body, space and time. The notion of self-determined force is one of the marks of a monad, and Kant is sufficiently Leibnizian in 1747 to maintain a view of space in harmony with this metaphysics. Space becomes the necessary condition of bodies acting outside themselves. Force is necessary for connections between substances; in fact, such connections are the necessary ground of order and coherence.

Kant now raises a question that occupied him for many years: How from these definitions of force, order and space can we show

[4] The matter was placed in a clearer light by d'Alembert a few years later. *Cf.* Cajori, *History of Physics*, New York, 1929, 58-59; Mach, *Science of Mechanics*, Chicago, 1902, 148, 250, 271-276; and Latta, *Leibniz*, Oxford, 1898, 86-93.

[5] Handyside, p. 14 sec. 115.

[6] Handyside, p. 15 sec. 115. *Cf.*, pp. 3-4 sec. 1-2.

the necessity for a plurality of dimensions in space? The first three powers of numbers are simple, *i.e.*, the exponents 1, 2 and 3 cannot be factored, while exponent 4 can be written 2 x 2. Can this be used to justify three dimensions in space? Kant decides not; we cannot say that a fourth dimension is but the product of two dimensional continuums, for a fourth dimension is unimaginable. Next, a second hypothesis is advanced from the nature of force. Since the attributes of body follow from the essence of body, space and time are grounded in force, which by definition is essential to matter. This reminds one of the scholastic assumption of the self-determination of substance with respect to attributes. But, if substance is force, force must be adequate to account for position and motion. Space is relative to body since force determines what and where body is with respect to other bodies. If this be generalized to mean that force is the measure of motion, and so of space and time, it seems difficult to avoid circularity. No definition of force is suggested that does not depend for its meaning upon definitions of space and time. Regardless of whether $F = mv$ or mv^2 the introduction of v has introduced either space or time, if not both.

In his third hypothesis Kant suggests that although force occasions a continuum the number of dimensions is contingent upon God, who could have chosen other numbers and so other worlds unknown to us.

> A science of all these possible kinds of space would undoubtedly be the highest enterprise which a finite understanding could undertake in the field of geometry. The impossibility which we observe in ourselves of representing a space of more than three dimensions seems to me to be due to the fact that our soul receives impressions from without according to the law of the inverse square of the distances and because its nature is so constituted that not only is it thus affected, but that in this same manner it likewise acts outside itself.[7]

In the last sentence of this passage Kant suggests an argument that has appeared before and will appear later. Here it is cast in the Leibnizian terminology and shows Kant's adherence to Wolff. The soul like other monads is force, so that interaction between monads—'mind' and 'body'—will follow the universal laws of force, *i.e.*, according to the inverse square of the distance. But this 'mind-

[7] Handyside, p. 12 sec. 10.

body' monism demonstrates that 'mind' is a ground for the same space as 'body'. The space of the world as determined by 'body' coincides with space as determined by 'mind'. There can be no dualism of spaces, for any space is the consequence of force, which is universal. Although it is impossible to find in this theory space as a form of the understanding, nevertheless, Kant's study of the problem as left by Leibniz shows that a new interpretation of relative space was possible for a theory of knowledge.

Between 1747 and 1755 Kant appears to have acquired some knowledge of Newton and his work. With the publication of *Allgemeine Naturgeschichte und Theorie des Himmels*[8] the results of his studies were made apparent. The introduction of Newtonianism to Continental thought presents complex problems which cannot be treated here. Yet by 1747 Euler was attempting to show that Newtonian space and time are necessitated by the laws of motion.[9] Such results are important from two points of view. First, they indicate that Newton's system had been assimilated to such an extent that it was possible to modify and build on his results. Secondly, the Continent was reaffirming its belief in space and time as absolute principles which were not empirical. Maupertius is of interest in this latter respect. Even while developing his principle of least action in harmony with Newton's *Principia* he is maintaining in his *Letters* of 1752 that extension and time cannot be distinguished in sensation from secondary qualities.[10] It is not surprising that such physics failed to produce an experiment with the pail.[11]

Now Kant in the work of 1755 shows that he has begun to change the notions of 1747 and that reasons for the change have been found in a study of Newton. Newton had stopped with the mathematically considered motions of the planets. Is it possible, Kant inquires, to formulate a theory of the origin of the universe?

[8] First published 1755. References are to *Kant's Cosmogony*, translated by Hastie, Glasgow, 1900.

[9] Euler, *Réflexions sur l'espace et le temps*, Berlin Academy, 1747.

[10] Maupertius, *Œuvres* XI (Lyon, 1756) 198-201.

[11] This point can be illustrated from d'Alembert and Boscovich. The former is a Leibnizian while the latter makes one of the many attempts to combine Newton and Leibniz. On space and time he shows his Jesuit training. *Cf.* Suarez. In Germany, Gottsched (*Erste Gründe* 1733), Baumgarten (*Metaphysica* 1739), and Crusius (*Vernunft-Wahrheiten* 1745), maintain the tradition of Leibniz and Wolff.

It is not our purpose to examine the details of his answer, but to note his opinion on the nature of Newtonian space and time. Throughout his work he devotes his attention to dealing with this problem in Newtonian terms. The opinions of 1747 are neglected, and in 1755 Kant appears uninfluenced by Leibniz.[12]

The general conclusion of the *Principia* makes possible a superficial comparison of Newton's bodies, space and time, with the matter and void of Latin atomism. Such a comparison is possible if the mathematical treatment of body is neglected; and, since Kant develops his theory qualitatively, he is able to begin by acknowledging an analogy between his non-mathematical Newtonian atomism and the teachings of Democritus. "I assume, like these philosophers [Democritus, etc.] that the first state of nature consisted in an universal confusion of the primitive matter of all the bodies in space, or of the atoms of matter as these philosophers have called them."[13] Space is the universal container of all matter, and matter is defined in the classical tradition. Indeed, there is little reason for Kant to mean anything more by space than the void. But he had read further in Newton and adds: "He [Newton] asserted that the immediate hand of God had instituted this arrangement without the intervention of the forces of nature."[14] This is the first instance in Kant's philosophy of a tradition which had long been important in England. The full import of the meaning of this for Kant is not apparent until later. Here it indicates no more than his thorough assumption of the Newtonian viewpoint. While there has been no diminution of rationalism since 1747, nevertheless, this new material from English thought prepares us to see Kant recognize the third tradition in his background.

This theological interpretation of space seems to have made quite an impression. He returns again and again to the notion:

> 1. . . . the whole infinite space to which God is present. . . .
> 2. . . . the infinite space, co-extensive with the Divine Presence, in which is found the provision for all possible natural formations. . . .
> 3. . . . the whole range of space to which God is present. . . .

[12] Although the stimulus for this work may have come from Thomas Wright, an examination of Wright's *Original Theory or Hypothesis of the Universe*, London 1750, does not give material for our special problem. The comparison with Wright is important for dating the Nebular Hypothesis, and not for Kant's theories of space and time.

[13] Hastie 24. [14] Hastie 72.

> 4. . . . the Deity is equally present everywhere in the infinitude of the whole of space; he is found equally near wherever there are natures that are capable of soaring above the dependence of the creatures to communion with Him as the supreme Being. The whole creation is penetrated by His energy. . . .[15]

It seems impossible to discover now the steps which led Kant to such a radical change of opinion. But some time between 1747 and 1755 there was a contact with English thought comparable to some extent with the acquaintance that has become classic as the 'awakening from dogmatic slumbers'. At all events, Kant has considered very seriously, as an alternative to his opinion of 1747, a view that Leibniz had been at such pains to refute in his letters to Clarke. No mention is made of these letters, and Kant seems unwilling to undertake any kind of comparison or adjustment of systems. Just as in 1747 he was content to fix his whole attention on Descartes and Leibniz without consideration of Newton, so now he is examining the Newtonian cosmology without reference to his previous work. Such problems as these may have formed themselves for him. Can force be defined satisfactorily in Leibnizian metaphysics while retaining the mathematical simplicity of Descartes? Can Newton's system be extended to explain the origin of the solar system? It is as though a contemporary had suggested solutions to problems in the wave-theory of light, or in the quantum-theory, without attempting speculations about the possible resolution of differences in a third theory. Such a contemporary would be educated in modern physics as Kant had been in eighteenth-century dynamics. It remains to consider what use he made of this knowledge.

In the same year (1755) Kant published his *Principiorum primorum cognitionis metaphysicae nova dilucidatio*,[16] which amplifies the theory of space advanced in the *Essay on Cosmology*. Here begin the hypotheses which were to reconcile not only the metaphysics of Newton and Leibniz, but the theories of knowledge that had been derived from those metaphysics. This 'New Essay' marks Kant's first attempt to consider a problem which, in its general form, had dominated the best philosophical work of the seventeenth and eighteenth centuries. How is it possible to describe

[15] Hastie 143, 144, 145, 165.
[16] Translated by England in *Kant's Conception of God*, London, 1929.

knowledge in the world described by physics? In the more particular relation of the problem to the treatment of space and time Kant shows a more complete digest of available material than in the previous paper. For Newton, as we have seen, space and time as God's attributes gave to phenomena the order which was made explicit by mathematical analysis. Space and time were the necessary matrix holding the universe together. Leibniz's different treatment had made space and time subsisting relations. Order was derived from the nature of body itself, and through pre-established harmony Leibniz accomplished what Newton had required of his physical principles as things. The increase of Newtonianism together with Locke's theory of knowledge had weakened, for Continental speculation, the authority of Leibniz. Through the theories of knowledge derived from Locke, of which Condillac's later work may be taken as the model, English empiricism made strong claims against Continental rationalism. In this *Essay* Kant takes notice of these problems, and space and time emerge as more obviously necessary for order. When he wrote the *Cosmology* it cannot be said that Kant ever raised the question, What are space and time? We can only infer that he read Newton's *Principia* and accepted Newton's more cautious developments. That he may have reached the same opinions by different reasoning is entirely possible, but there seems to be no evidence to this effect. But later in the same year he turns space and time to a definite use, by making them serve the need for connection; and when Kant thus makes use of space and time, he begins to reveal more clearly his opinion on what they are.

The argument begins from a discussion of substance in the terms of Leibnizian logic. Substance by itself, so the account runs, if self-caused, is absolute and cannot be related to anything else, since relation can only be understood as a predicate of a subject. Yet things are found to have relations, and "it must be confessed that this relation depends upon a community of cause, namely, upon God, as the general principle of existence".[17] With this statement Kant removes the principle of pre-established harmony from Leibniz's system and interprets Leibnizian substance according to the theological tenets of Newton. "The co-existence of the substance

[17] England 248.

of the universe does not suffice for establishing a connection between them, but requires in addition some community of origin."[18] In the application of these principles Kant reaches a conclusion that shows the extent of the effect of Leibnizian and Newtonian influences in his philosophy.

> Since position, situation, space, are relations of substance by which, through mutual determinations, they have reference to other substances actually distinct from themselves . . . it is evident that if you posit the existence of several substances, you do not thereby at the same time determine their position and situation, and what is bound up with these complete relations, space.[19]

So he concludes the possibility of other intelligible worlds, for it may be a divine characteristic of our world that substances are related by God in space and time. There is an implicit inference in this argument that this relation of space and time is necessary for our knowledge of substance. That Kant may have intended this conclusion is made plausible by the metaphysics which included soul or mind in the class of substances. As such, mind must be related to nature by means of space and time even as the parts of nature obtain their coherence from this same relation. To this extent there is a return to the notions of 1747.

It is remarkable that so far Kant has neglected to advance arguments designed to prove directly that space and time are either principles, or relations, or things. Of course, we can judge what he thought space and time were from their functions in his various hypotheses about nature. But in comparing these earlier works with the writings of 1781 and later this difference is particularly noticeable. His treatment suggests an examination of current theories and their implications. This does not lead him, except in his analysis of substance, to notions underlying the more final hypotheses of physical knowledge.

Thirteen years after the *Nova Dilucidatio,* in 1768, Kant raises a new set of questions about space in *Von dem ersten Gründe des Unterschiedes der Gegenden im Raume.* The following thesis is defended.

> For the positions of the parts of space in relation to one another presuppose the region toward which they are ordered in such relation; and this region, in ultimate analysis, consists not in the relation of one

[18] England 249.

[19] England 249-50.

> thing in space to another (which is properly the concept of position) but in relation to the absolute world-space.[20]

This passage makes clear the assumption of Newtonian absolute space. In fact, Kant is attempting to find the ground of spatial relations. From this arises a second assumption: the denial of the independent reality of such relations. These relations cannot stand alone, but imply a ground in which to inhere, a theory that shows very clearly the influence of Newton's logic and metaphysics. All propositions must be reduced to subject-predicate form, and when space is predicate it becomes necessary to supply a subject. In the above argument absolute space is the subject for spatial relations taken as predicates. So the problem becomes a search for relations of such a kind that their meaning can be explained if absolute space is postulated as ground.

The next paragraph limits the field of research to geometry.

> I therefore limit myself to this one further remark, that my aim in this treatise is to investigate whether there is not to be found in the intuitive judgments of extension, such as are contained in geometry, an evident proof *that absolute space has a reality of its own, independent of the existence of all matter, and indeed as the first ground of the possibility of the compositeness of matter.*[21]

In stating this condition Kant perpetuates the notion, held without exception in his day, that Euclidian geometry is a description of the relations of what we should now call empirical space. Consequently, if he can offer propositions from geometry which are intelligible only if absolute space exists, then the probability of the empirical existence of such space will be unity. The argument has shifted from the initial thesis of relations implying absolute space to the very different set of propositions, (1) that relations in empirical space are the subject-matter of geometry, and (2) that the space of geometry is the space of physics and perception. The argument that follows succeeds only in the first of these propositions, though Kant by failing to realize that the second proposition requires separate proof extends the proof of the first to include the second. What he did prove was unimportant, for no one questioned that geometry studied relations in space. Only by failing to make

[20] *Regions in Space*, translated by Handyside in *Kant's Inaugural Dissertation, etc.* (Chicago, 1929) 20.
[21] Handyside 20. Kant's italics.

clear the scope of his demonstration could he believe he had any relevant demonstration at all. In the next step, the transition from the space of geometry to the space of physics and empirical knowledge, there is no trace of proof, only the implicit eighteenth-century assumption. Yet the subsequent argument is intended to prove that Euclidian geometry treats of absolute empirical space. We must now examine this proof, although if we read Kant correctly this argument raises a problem contained within mathematics and not relevant to his metaphysical intentions.

In order to show that geometry requires absolute space Kant advances the well-known problem of similar three-dimensional figures, *e.g.*, a pair of gloves, and the operations necessary to superimpose one figure on the other. Given two triangles with the three sides of one equal respectively to the three sides of the second, it is possible to place triangle A on triangle A_1 so that the sides x, y, z and x_1, y_1, z_1, are in one-to-one correspondence. But in order to move A to rest on A_1 so that x coincides with x_1, y with y_1, and z with z_1, it is assumed that there is a third dimension through which A can be turned. Without a third dimension the construction of congruence in this case is impossible. Likewise, if we restrict ourselves to one dimension it is necessary to assume a second dimension if the construction is to succeed. By analogy we imagine that if there were a fourth dimension it would be possible to accomplish like results with three-dimensional figures, such as gloves. But Kant denies the possibility of a fourth dimension by which the problem could be solved. He concludes that the difference is irreducible and is evidence that empirical spatial relations have an absolute ground.

The argument used here may be interpreted in at least two ways. First, it may be read for the light afforded concerning the foundations of geometry. Secondly, it provides a meaning for the metaphysics of space, *i.e.*, what kind of an entity space is. I shall try to show that by the first interpretation Kant has stumbled upon an important truth, while in the second there is nothing but a confusion arising from a failure to appreciate the meaning contained in the first.

When the analysis and examples offered by Kant are reduced to their simplest terms it appears that if we are given two points, BA,

it is impossible to bring these points into congruence with two other points, AB, unless we postulate a space increased by one dimension with respect to the space in which our points are located. It will be necessary to turn the points BA which are in a space of one dimension through a space of two dimensions. This establishes a simple law; congruence can be satisfied if there is a space of n + 1 dimensions in which n is the number of the dimensions of any figure. We may now ask two questions. (1) What is the difference between AB and BA, and (2) what does it mean to say that this difference is resolved if the space of AB and BA is increased by one dimension? Although there seems to be no way to define the difference between AB and BA, such differences have acquired a name; it is customary to refer to them as differences of order. But it seems impossible to define such order since it seems to be logically simple. Like other logical primitives it is recognized and known, but can only be defined denotatively, by pointing to examples. Such a theory is now clearly recognized in modern efforts to discover the smallest number of assumptions on which may be erected the framework of theorems comprising a geometry. Now in our example congruence is possible if BA is rotated through an angle of 180 degrees. After such rotation the orders of BA and AB are identical. Can we say that in the operation of rotation through 180 degrees we find an explanation of the difference between BA and AB? Obviously not, for in describing how different orders are created we have not defined what we mean by order. The process which reduces BA to AB, or the converse, is only a formula for the construction of these two particular types of order. Consequently, when Kant insisted on the simplicity of order and the place of this notion in the foundations of geometry he did important work, the full meaning of which was only realized much later for mathematics and philosophy.

But this treatment of the problem is ineffectual to answer our second question, What kind of an entity is space? The root of Kant's confusion we have mentioned before. Only in the assumption that geometry describes space as perceived could he hope to identify the meaning of order in geometry with the meaning of order in perception. The difference between a pair of gloves is a difference in order in the points comprising the gloves. By 'right'

we refer to one kind of order, by 'left' to another. Although much may be learned from such objects about kinds of order no ground is discovered to conclude that there is absolute and not relative space.

Two years later (1770) Kant presented his *Inaugural Dissertation.* The arguments given there concerning space and time prepare the way for the *Transcendental Aesthetic* and are not considered here since they may be studied more effectively in connection with the *Critique.* For this reason it seems feasible to consider what general conclusions are available from the material published before 1770. The most startling of Kant's hypotheses is the proposed solution of Leibnizian and Newtonian differences. In a measure this marks the fruition of his studies in Descartes, Leibniz and Newton, and shows that he was aware of the problems within and without those systems. Space and time were necessary for physics and knowledge. Their most effective treatment for physics left them absolute principles which seemed to escape the solutions of contemporary empirical epistemologies. At the same time, the space and time of perception seemed to lack the universality and necessity which were to become the marks of the *a priori.* Now in the *Nova Dilucidatio* Kant's reconcilation takes the form of treating space and time as the grounds of all order. By their universality they include mind and matter, and they acquire necessity from the definition of substance. This suggests that Newton supplied Kant with the universality of space, and Leibniz with the necessity. The methodology of the *Critique* obscures these origins, and it becomes difficult to see that Kant never relinquishes his belief in absolute space and time.

The connection between this and the little paper on *Regions in Space* falls into its proper perspective if we notice that Kant is attempting to find some reason to believe in the necessity of the universality of space. Presumably, Newtonian arguments or results convinced him that space was the universal container of all things. At the same time contemporary geometry claimed to study this space according to a plan that gave necessary answers to its problems. What could be better than to show that the method of study proved the subject of that study to be necessary as well? In this peculiarly Kantian elaboration of the problem it appears that Kant

and Newton have much in common. The space and time of Newton were conceived for the sake of the empirical study of nature. Newton's error appears in making the elements of his methodology empirical objects. Kants' space and time develop as means to the solution of the general epistemological problem of the eighteenth century: How is relative knowledge possible in an absolute universe?

The development of Kant's pre-critical conception of space and time thus falls into two parts. There is a preliminary period of acquaintance with French, German and English opinion. This is followed by the years in which efforts are made to change this material so that knowledge may be accounted for. The great change that is supposed to have taken place in his thought between 1770 and 1781 reveals itself as no change of problem, and no change of essential method. It is nothing but an increasing emphasis on the rôle of space and time in the foundations of knowledge. As early as 1755 we have found him laboring to reconcile the different traditions of Leibniz and Newton. By 1781 the language of reconciliation has been translated from the terminology of physics and substance into the vocabulary of psychology and logic. Recognition seems due to these early writings as affording Kant's own introduction to his more famous conclusions. From a study of them we can view the beginning of his philosophy in the natural science of his age and its development in accordance with the opinions of his predecessors.

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DISCUSSION

KANT ON THE COSMOLOGICAL ARGUMENT

IN discussing the arguments for the existence of God, Kant tells us that the cosmological and the teleological arguments presuppose the ontological, and that, consequently, they are subject to the objections to the latter as well as to difficulties peculiar to themselves.[1] I think that Kant is mistaken on this point.

The ontological argument asserts that the notion of an *ens realissimum* implies that an *ens realissimum* exists, and hence that an *ens realissimum* is a necessary existent. This proposition I shall name (1).

The cosmological argument starts from conditioned existence, and passes to the assertion of a necessary or unconditioned being as the absolute cause of the conditioned. Then it proceeds to identify this necessary existent with an *ens realissimum*, by arguing that the concept of the latter is necessary to the concept of the former. In other words, the fundamental principle of this second part of the cosmological argument is this: Only if x is an *ens realissimum* is x a necessary existent, which is equivalent to: If there is no *ens realissimum*, then there is no necessary existent. This principle, which I shall call (2), together with the assertion of the first part of the argument (namely, that there is a necessary existent) yields the conclusion that there is a genuinely existing *ens realissimum*, or a god.

My point is that proposition (2), the principle of the cosmological proof, does not imply or presuppose (1), the principle of the ontological argument. Hence a disproof of the latter would not imply a disproof of the former. The form of the principle of the ontological argument is this: 'If p, then q' (the concept of an *ens realissimum* is sufficient to the existence of an *ens realissimum*); whereas the form of the corresponding principle of the cosmological argument is: 'Only if p, q' ('x is an *ens realissimum*' is necessary to 'x is a necessary existent', which is equivalent to 'x is a necessary existent' is sufficient to 'x is an *ens realissimum*'). In order for Kant's point to be well taken, the latter principle would have to entail the former, which it fails to do.

If we may be permitted to speak roughly in terms of the algebra of classes, we may explain this by pointing out that *part* of what the ontological argument says is that the class of '*entia realissima* that are not necessary existents' is null; and that the principle of the second part of the cosmological asserts that the class of 'necessary existents that are not *entia realissima*' is null. If the reader will write both of these propositions into one Venn diagram he will see that they are independent. From both of them it indeed follows that all *entia realissima* are necessary existents and that all necessary existents are *entia realis-*

[1] *Critique of Pure Reason* A 592 to A 630.

sima. This whole non-existential proposition may be true, but that it is true is not indispensable to the conclusiveness of the cosmological argument. All that the second part of it requires is the non-existential proposition: All necessary existents are *entia realissima*.

For fear that some one may question the accuracy of my formulation of the cosmological argument, I shall restate it, and then answer two possible objections.

Step 1. (a) Empirical premise: I am a conditioned existent. (b) But 'x is a contingent existent' implies 'there exists an unconditioned or necessary existent as its absolute cause'. Hence, (c) there is a necessary existent.

Step 2. (d) Only if x is an *ens realissimum*, is x a necessary existent. Therefore, by (d) and (c), (e) there exists an *ens realissimum*. That is, a god exists.

I divide the cosmological proof into these two steps, because Kant's contention seems to be that even if the first step be sound, it concludes only to a first cause of some kind. Consequently, the second step is needed in order to show that this first cause or necessary existent is a god. This, according to Kant, is done by assuming the ontological argument. My point has been to show that he is mistaken on this latter point.

The above-mentioned two objections to my statement of this argument are as follows: (1) The principle of the second step should be; If x is an *ens realissimum*, x is a necessary existent. My answer is that if this latter proposition were the principle, the argument would commit the fallacy of affirming the consequent, and hence would not be a proof even in form, but at most an inductive argument with a conclusion that could be probable at best, even if the premises were certain.

(2) It may be objected that the principle of the second step should be: If and only if there is an *ens realissimum*, is there a necessary existent. I reply that the addition of the 'If' supplies nothing whatever to the cosmological proof. It in no way helps us to pass from the conclusion of Step 1 to the conclusion of Step 2, for its employment would commit the fallacy of affirming the consequent, as pointed out above. Hence such an attempt to smuggle in the ontological argument not only would add nothing to the proof but would be entirely irrelevant to the form, and inadequate to the purpose, of the cosmological argument.

I might add too that even if one were successful in showing that this 'If-and-only-if' proposition is the principle of Step 2, still one would not have shown that the ontological argument is presupposed. For the principle of the latter proof is not: 'x is an *ens realissimum*' implies and is implied by 'x is a necessary existent', but rather: the *concept* 'x is an *ens realissimum*' implies that there exists a value of x such that, when substituted for x in 'x is an *ens realissimum*', this function becomes a true proposition. Accordingly, even if the *concept*

of an *ens realissimum* imply the *concept* of a necessary existent, the ontological argument nevertheless would not follow.

To summarize our discussion so far, the ontological argument starts from a given concept (*ens realissimum*) and holds that this concept is *sufficient* to the existence of an instance of itself. As we have already pointed out, the cosmological demonstration, on the other hand, starts from a true existential proposition and holds that a *necessary* condition of the existent is a necessary being, which it argues is an *ens realissimum*. Hence they are distinct and independent arguments.

I shall now analyse Kant's argument, with the purpose of pointing out where he made his mistake. In passing to the second part of the cosmological proof he says, "Reason therefore abandons experience altogether, and endeavors to discover from mere concepts what properties an absolutely necessary being must have, that is, which among all possible things contains in itself the conditions (*requisita*) essential to absolute necessity".[2] The first part of this sentence informs us that, after a necessary existent has been established, the task of reason is to discover all the properties indispensable to such a being, through an analysis of its concept. That is to say, reason must determine the necessary conditions of a necessary existent. Now the totality of the necessary conditions of anything is a sufficient condition of it. Let us notice, however, that the second step of the cosmological argument does not demand a determination of the totality of indispensable conditions, but only the presence of one; namely, the property of being an *ens realissimum*. Thus the argument requires merely that the proposition, 'x is an *ens realissimum*' is necessary to 'x is a necessary existent', be demonstrable through an analysis of the concept of a necessary existent. So all that reason needs to do is to discover a certain necessary condition of 'x is a necessary existent', not a sufficient one.

Observe too that the part of the sentence following "that is" does not assert exactly what the preceding part says, but prepares the way for the next sentence, which I shall quote in a moment. By making the relative pronoun "which" singular, Kant imports into the argument the notion that there can be only one necessary existent, thus getting us into a receptive mood for the later assertion that the notion of a necessary existent and the notion of an *ens realissimum* are equivalent. That they are may be true. I am not interested in affirming or denying that proposition, but merely in pointing out that it is not part of the cosmological proof.

[2] The English versions of Kant that appear in this discussion are taken from Kemp Smith's translation of the *Critique of Pure Reason*. ". . . sondern da nimmt die Vernunft gänzlich von ihm Abschied und forscht hinter lauter Begriffen: was nämlich ein absolutnotwendiges Wesen überhaupt für Eigenschaften haben müsse, d.i. welches unter allen möglichen Dingen die erforderlichen Bedingungen (*requisita*) zu einer absoluten Notwendigkeit in sich enthalte." A 606, 607.

Kant continues, "Now these, it is supposed, are nowhere to be found save in the concept of an *ens realissimum;* and the conclusion is therefore drawn, that the *ens realissimum* is the absolutely necessary being."[3] To be accurate he should have said, ". . . and the conclusion is therefore drawn, that the absolutely necessary being [whose existence is proved by the first step of the argument] is an *ens realissimum.*"[4] We must ever hold in mind that the argument is *from* the proposition that there is a necessary existent *to* the proposition that there is an *ens realissimum.* Completing this illicit conversion in the next sentence, Kant says, "But it is evident that we are here presupposing that the concept of the highest reality is completely adequate to the concept of necessity of existence; that is, that the latter can be inferred from the former."[5] This is not at all evident; it may be false; but in any case it is not essential to the cosmological argument. That argument does not presuppose the proposition, If x is the highest reality, then x is an absolutely necessary existent, but rather its converse. Hence Kant's statement may be false and yet the cosmological argument conclusive.

As a matter of truth it may be that the concepts of a necessary existent and of a highest reality are equivalent, but that they are is not a proposition required by the cosmological proof. Theologians may have reasons for holding them to be identical, but none of these reasons is that otherwise the cosmological argument would fail. Moreover, this argument is not essentially a monotheistic proof. Properly stated, it concludes to the existence of *a* god. That there can be only one necessary existent or only one highest reality is still another proposition, and one which can be proved or disproved only by *a priori* arguments, and to which the existential feature of the ontological demonstration is irrelevant.

For sake of understanding, even at the risk of undue repetition, let us introduce into the proof the proposition that 'x is an *ens realissimum*' entails 'that x is a necessary existent'. Still we are not involved in accepting the ontological proof, for it asserts, in addition to this complex function, that there exists an x which satisfies the first constituent of the function, and that this existential proposition follows from the concept 'x is an *ens realissimum*'. The cosmological proof need not

[3] "Nun glaubt sie im Begriffe eines allerrealesten Wesens einzig und allein diese Requisite anzutreffen und schliesst sodann: das ist das schlechterdings notwendige Wesen." A 607.

[4] Historically Kant may of course be right, for some adherents to the cosmological proof may have drawn the conclusion he states; but the weaker conclusion would have been sufficient to the argument. The point we are interested in is not whether he states it as some have stated it, but rather whether he states it correctly.

[5] "Es ist aber klar, dass man hiebei voraussetzt, der Begriff eines Wesens von der höchsten Realität tue dem Begriffe der absoluten Notwendigkeit im Dasein völlig genug, d.i. es lasse sich aus jener auf diese schliessen." A 607.

assert *this* existential proposition, for its existential premise is an empirically grounded assertion.

Kant repeats the same point in different language in A 608, by showing that the proposition, Every absolutely necessary being is likewise the most real of all beings, may be converted simply. But he proves neither that the cosmological argument fails unless it be so convertible nor that its convertibility is sufficient to the ontological argument.

What Kant really has done is to show that some *a priori* element is necessary in order for the cosmological argument to prove the existence of a genuine god. That is, he has shown that the empirical premise, even if it justify belief in a necessary existent, does not suffice to justify belief in a supreme being, without some proposition about the analysis of, and the connections between, the relevant concepts. In short, he teaches that in order to pass from contingent existent to necessary existent, and from necessary existent to god, *a priori* elements are needed. But he erred in regard to the nature of the addition required in the latter case.

I conclude therefore that Kant has not shown that the cosmological proof presupposes the ontological argument. Moreover, if what I have said be true, the physico-theological proof does not presuppose the ontological argument, for the same point is there involved.

It is not part of my purpose to criticize these arguments in themselves—either the truth of their premises or the validity of the reasoning. On these points I have nothing to add to the existing literature on the subject.

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REVIEWS OF BOOKS

The Philosophy of Spinoza: Unfolding the Latent Processes of His Thinking. By HARRY AUSTRYN WOLFSON. 2 vols. Cambridge, Mass., Harvard University Press, 1934, Pp. x, 440; 424.

It would be difficult to overestimate the importance of this work as a contribution to philosophical scholarship. Every student of Spinoza has, of course, been more or less vaguely aware that the roots of his thought lie deep in Hebrew medieval philosophy. Unfortunately, however, since Hebrew philosophy has, in Professor Wolfson's words, been "relegated to the esoteric field of oriental wisdom", the exact bearing and full significance of Spinoza's utterances has hitherto remained hidden from the average reader. What Professor Wolfson has done is to lay bare these roots of Spinoza's thought.

In doing this he has actually done much more than to increase our understanding of Spinoza alone. These two volumes throw a flood of light upon the issues of medieval thought in their complex historical development. To cite but one example: in attempting to show precisely why and in what sense Spinoza characterizes God as a *universal, efficient, essential, first, principal, free,* and *immanent* cause (I, ch. ix), the author takes the reader on a tour through the unfamiliar region of Jewish philosophy back to Aristotle, pointing out significant features by which to orient himself. One returns from such a tour not only better able to see Spinoza in his proper setting but with that deepening of insight and appreciation of familiar things which comes only from travel in other lands.

The author has, however, a definite thesis to maintain. He does not merely seek to show that the philosophy of Spinoza has historical relationships to medieval thought, the tracing of which is essential to a full comprehension of Spinoza, but he argues throughout the two volumes that the *Ethics* represents the logical conclusion to which Spinoza was relentlessly driven by the internal criticism of traditional medieval doctrines. "What is New in Spinoza" (the discussion of which is significantly reserved to a final chapter bearing this title) is reducible to the "act of daring" by which he established the "long-envisaged truth" of the unity of nature. All the characteristic Spinozistic doctrines, (1) the materiality of God, (2) the denial of final causality to God, (3) the inseparability of soul and body, (4) the denial of free will to man, are asserted by Professor Wolfson to be special "acts of daring" committed by Spinoza in his efforts to avoid the internal contradictions of medieval thought. The *Ethics* is, in short, held to be primarily a criticism of traditional doctrines. It is original and constructive only in its uncompromising consistency in asserting the consequences of the central truth necessarily recognized by all philosophers —the unity of nature.

Despite the array of detailed evidence marshalled in support of this thesis, the reviewer finds the argument as a whole unconvincing. Spinoza I must continue to see primarily as a great constructive thinker rather than a critic. That all constructive thinkers are necessarily critics of the tradition in which they are bred is undoubtedly true. Aristotle and Hegel, no less than Spinoza, continue a tradition and proclaim in its fulness the "truth" long-envisaged by their predecessors. But all constructive philosophies pour new wine into old bottles. Spinoza's old bottles Professor Wolfson shows us very clearly; but he misses the new wine, chiefly, I think, because as a scholar he is occupied in searching shelves where only bottles are stored. The wine, of course, comes from the ferment of the new 17th century science, the vintage of Descartes. It is not that Professor Wolfson ignores the influence of Descartes; Descartes, Maimonides, and Aristotle are recognized as the three thinkers whose influence upon Spinoza is most extensive and most evident. It is rather, I venture to think, that the significance of Descartes' own thought, and consequently of its influence on Spinoza, is not fully appreciated.

Even if the brief space of a review permitted its use, the method of historical analysis, of which Professor Wolfson is so obvious a master, could hardly justify the claim that Spinoza is an original and constructive thinker. Such originality must in the nature of things escape the exact analysis of chapter and verse and reveal itself, if at all, in the meaning of the whole. Spinoza has a new center of vision, such that the old terms and issues appear in a fresh perspective in which the old values are profoundly shifted and transformed.

As an example at once of the value of Professor Wolfson's procedure and of its limitations, let us consider his treatment of the attributes, extension and thought. These are "the two conventional constituent elements of the world, matter and form", which Spinoza "prefers" to call extension and thought (II, 353). The translation of 'form' into 'thought' sets no problem for Professor Wolfson, "for the highest form or God is spoken of by Aristotle and throughout the Middle Ages as pure thought" (I, 235). Matter, however, Professor Wolfson argues, has been modified in important respects in becoming the attribute extension. In the first place, materiality must, Spinoza clearly saw, be attributed to God if the derivation of a material world from God is to be made intelligible. But a matter constitutive of God's essence could not be either purely passive or mere potentiality. For this reason "extension must be active no less than thought, and just as thought is thinking, so extension is motion", expressing the activity of its own nature (I, 237). Accordingly, motion becomes an immediate infinite mode of extension as infinite intellect is of thought. This necessity of making matter active, however, does not, we may observe, account for making it extension; although, if extension is to be en-

dowed with activity, motion-and-rest would seem to be the only sort it could conceivably have. Matter is transformed into extension, Professor Wolfson explains, because, in the first place, some one of the multifarious meanings of matter had to be selected by Spinoza to avoid sheer confusion; secondly, extension as the *forma corporeitatis*, originally limited to the matter of the four elements and thus to the sublunar realm, had been identified by Crescas with the prime matter and extended throughout the infinite universe as the matter of celestial as well as terrestrial bodies. Spinoza adopted this doctrine of Crescas as a step toward the establishment of the unity of nature.

This is interesting, and it is doubtless sound interpretation, as far as it goes; but it misses an essential aspect of Spinoza's thought that he derives from Descartes. Descartes selected extension as the essence of material substance because of its clearness and distinctness and because it enabled him to envisage the whole realm of external nature as the subject of a generalized mathematics, and as such completely explicable in terms of a geometrically conceived mechanics. Nature, as he conceives it, is no longer divisible into an animate and an inanimate realm, but animals and vegetables are alike automata, completely subject to mechanical laws. Professor Wolfson asserts that Descartes does not conceive the universe to be governed by laws of necessity such as prevail in mathematics, since he finds room in it for final causes, divine will, and human freedom (I, 53). This assertion ignores the significance of the fact that the mechanism of nature is interfered with, according to Descartes, solely through the agency of man's will mysteriously acting through the pineal gland. If Spinoza contemptuously rejects such interference, it is because he has so unequivocally accepted Descartes' mechanism. Spinoza could not simply deny final causality, so essential to Aristotelianism, and have a workable system left. He must replace it with some positive doctrine, and this doctrine is the mechanism he inherits from Descartes and makes universal. It is fundamentally for this reason that he transforms matter into extension.

There is a further point fundamental to the understanding of extension and thought with regard to which I find Professor Wolfson's treatment unsatisfactory. The definition of an attribute as "that which the intellect perceives of substance as if constituting its essence", he interprets to mean that extension and thought are "inventions" of the mind and not "discoveries" by the mind (I, 146). If they were really constitutive of its essence, Professor Wolfson argues, the simplicity of substance could not be saved. The bulk of both literary and material evidence, he urges, is in favor of this "subjective" interpretation. My difficulty with such a view is simply that it makes nonsense of Spinoza. Any historical evidence that makes nonsense of a great thinker must, I should suppose, be regarded with suspicion, if not entirely discredited.

If the simplicity of substance be such as to permit no real plurality of attributes, how can there be any distinguishable entity or agency to "invent" the attributes? If the intellect, either human or divine, performs this act, then the attribute, thought, of which intellect is a mode must be ontologically and not merely epistemologically distinguishable from other attributes, and ontologically constitutive of the essence of substance. Again, if the extension attributed to God does not really belong to his being, the problem of the creation of a material world is not solved. Indeed, if extension is only an "invention" of the mind, there can be no such problem to be solved. Professor Wolfson maintains that the multiplicity of the finite modes is compatible with the simplicity of infinite substance as conceived by Spinoza. The plurality of attributes must be interpreted as equally compatible, if Spinoza's system is to be intelligible.

The chapters dealing with man, his place in nature, and his relation to God, are a mine of valuable information for the enrichment of our understanding of Spinoza. But here again, I am persuaded, Professor Wolfson fails to do justice to the fulness and the distinctiveness of Spinoza's thought. In accordance with the central doctrine of the unity of nature, man is unalterably "a part of nature" and not "a kingdom within a kingdom". Yet Spinoza's treatment, as Professor Wolfson points out, is based on the ancient analogy of the microcosm, man, to the macrocosm, the universe (II, 7-8). As thought and extension are related in God, the macrocosm, so are mind and body related in man, the microcosm. If, however, Spinoza means, as Professor Wolfson evidently assumes, that this analogy applies to man alone and that only man is an epitome of the universe, then the unity of nature breaks down. Man becomes "a kingdom within a kingdom" and not "a part of nature", and Spinoza is left with an ultimate contradiction. Professor Wolfson is unquestionably right in assuming that Spinoza does hold that man is unique in important respects: in his rationality, his freedom, and his immortality. But he does not recognize the difficulties which this involves for Spinoza, nor does he do justice to the way in which Spinoza's argument throughout is designed to meet these difficulties and to resolve this contradiction. If Spinoza does not actually accept panpsychism, he is at least logically committed to it. This is the clear implication of his statement, in the scholium to Proposition xii, Part II of the *Ethics* (quoted by Professor Wolfson, II, 58), "these things which we have proved hitherto are altogether general, nor do they refer more to man than to other individuals, all of which are animate, although in different degrees". If the idea of the human body, man's mind, alone is "conscious", the ideas of other bodies differ from it in this respect only in degree, which is the essential contention of panpsychism. The inertia of physical bodies is identified, as conatus, with the vital impulse of animals and man, as Professor Wolfson him-

self recognizes (II, 200-201). To hold with Professor Wolfson that Spinoza means by calling all things animate exactly what Aristotle would have meant by saying that all things have forms (II, 59), and that they are ideas only in the sense of being objects in God's mind, is to overlook an essential consideration. It is the mechanism of Spinoza which puts his conception of the soul in opposition to that of Aristotle and commits him to all the difficulties of a universal parallelism. As all finite modes of extension share in the infinite mode of motion-and-rest, so all the finite modes of thought, which are their respective "ideas", must share in the infinite mode of intellect, not merely as objects of divine thought but as participants in its essential activity. What I take to be fundamentally distinctive of Spinoza's *Ethics* is his determined effort to drive abreast the steeds of naturalism and religious idealism. The yoke by which he unites them is the ever-recurrent *quatenus*, "insofar as". We may grant that ultimately he does not succeed, but unless we appreciate his enterprise for what it is, his greatness and his originality will escape us.

Although Professor Wolfson's work does not provide us with a complete and adequate interpretation of Spinoza's system as a whole, it does furnish, proposition by proposition, a commentary so valuable that it must prove indispensable to every serious student of the *Ethics*.

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L'expression de la vie dans l'art. Par CHARLES LALO. Paris, Félix Alcan, 1933, Pp. 264.

Does art express the character of the artist? Lalo shows that many distinguished theorists have too easily answered the question with a simple "yes". On the other hand, those who are personally acquainted with poets, painters, or other artists are often astonished by the contrast between the artist and his work. This has led other theorists to assert that the artist "lies", or plays a rôle, and that art is dissociated from life. Still others recognize that mental life is itself complex, and relate art to one of its phases. Lalo here considers Freudianism and various theories from Plotinus to Bergson which distinguish "profound" and "superficial" strata in personal life. He concludes that whatever dichotomy or trichotomy one performs on the mind, art is not exclusively the expression of one of the resulting fragments. Rather, he concludes, our mental life is a complex polyphony of interlacing processes with many alternations of contrast and unison among themselves. Likewise, artistic activity has no invariable relation to other aspects of personality, but presents a variety of resemblances and contrasts to them.

Is art the expression of a society? Here again Lalo finds the traditional "yes" or "no" inadequate. The public which appreciates a given

work may be numerous or limited, contemporary with the artist or of a subsequent epoch. Furthermore, there are several species of appreciation. Those who admire a work of art may find in it (1) a diversion from the tedium of life, (2) an immunization against obsessive impulses (catharsis), (3) the dream of an ideal inaccessible in reality, (4) a reflection of their own type of life, giving the pleasure of living it twice, (5) the exercise of a technical artistic interest (art for art's sake). Thus the work appreciated has no single relation to the public which appreciates it. The historical mutations of the various arts show no simple correlation among themselves nor with political or economic changes. The expression of individual or social life in art is more often indirect and partial than direct and total. Lalo sketches some of these relationships in two chapters entitled "Art close to Life" and "Art far from Life"; he promises fuller surveys in two future volumes bearing these titles.

In view of such complexities the author insists that the only valid aesthetic must be pluralistic, empirical, and relativistic; it must be a tentative and progressive synthesis of all relevant knowledge, whether it be technical, psychological, or sociological. He wittily derides the absolutistic aesthetic systems based on one "magic word" or on two "magic words". He risks a tentative definition of beauty by means of five relative traits (236-246).

On the whole, Lalo's positions seem so sane and well supported that one wonders at the necessity of asserting them; but his book bristles with quotations from the most revered theorists which convict them of making some half-truth or tenth-truth do duty for the whole. The book is written with the standardized vivacity characteristic of French *savants*.

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Philosophia Perennis. Abhandlungen zu ihrer Vergangenheit und Gegenwart. 2 vols. Herausgegeben von Fritz-Joachim von Rintelen. Regensburg, Josef Habbel, 1930. Pp. XXVIII, 1244.

These volumes, published in honor of Professor Josef Geyser of Munich on the occasion of his sixtieth birthday, consist of sixty-eight contributions, written in the various languages of the authors. The subjects treated are grouped in three divisions, the history of philosophy, systematic philosophy, and practical philosophy. Some of them represent the orthodox Catholic tradition, while others are more remotely connected, or are at best sympathetic, with it. The historical papers devoted to classical thinkers in the Catholic tradition constitute the best portion of the work. The assertion of A. Usenicnik in his paper on St. Thomas, that the *philosophia perennis* is supertemporal and valid eternally in its highest principles, expresses the spirit of the publication.

How seriously this point of view is taken is shown by L. J. Walker's paper on the bearing of modern physical theories on Catholic philosophy, which endeavors to reconcile the Aristotelian philosophy with current physical issues such as are raised by the relativity and quantum theories. Meister Eckhart could read no more out of the Bible than Mr. Walker finds in the medieval version of Aristotle, when he states the Scholastic doctrine that this world is but one of many possible worlds, created by divine *Fiat*, to be *mutatis mutandis* the doctrine of the theory of relativity and alternative geometries. It is not to be expected that any advance in the philosophy of science will arise from a tradition which still thinks and argues *modo Aristotelico*, "in conformity alike with right reason and the teaching of the Christian Church".

The paper on probability and certainty by M. D'Arcy illustrates the confusion of subjective and objective, or evidential, conditions of belief. No doubt a person can believe to any degree, and can enjoy a kind of "certainty" in some beliefs to which no degree of probability may attain. The writer ignores the objective meaning of certainty in terms of probability, the highest value of which expresses certainty, when he asserts that probability and certainty belong to different orders or are irreducibly different ideas. He assumes that the facts of our actual experience, with their references, constitute an infinite complex which is etched on the mind as a unity; and he begs the question at issue by stating that it is necessary to posit in the mind the power of apprehending what degree of consistency cannot but be truth. There is a great difference between the illustration that "England is an island", the evidence for which is not as difficult to obtain as the writer implies, and the "supernatural setting" of Christianity, "which he who has eyes to see will perceive in its supernatural unity".

Professor Geyser's philosophy is of particular interest to the reader. K. Huber's essay on Geyser's position in logic and epistemology and L. Baur's discussion of his metaphysical views are helpful summaries of some important phases of his work. By his extensive critical treatment of recent philosophical tendencies he has, in the opinion of Huber, shown himself to be a genuine Aristotelian methodologist. The standpoint that genuine knowledge finds and does not create its object makes possible an "objective" logic, which regards the logical functions and fundamental principles as derived from and determined by relationships of being. This aligns him with the opponents of *Psychologismus* and *Anthropologismus*. A comparison with Cardinal Newman comes to the reader's mind when he learns from Baur's essay that Geyser, as he himself said, had to choose between the Scylla of being rated an extreme Scholastic by those not fully informed on Scholasticism, and the Charybdis of those Scholastics who are in a position to point out his deviations from orthodoxy. How to remain an approved Catholic thinker while conceiving philosophy as a growth and attempting to do

justice to all advances in philosophy and science presents a problem requiring tact as well as wit. Although most of Geyser's published work has been devoted to logic, epistemology, and psychology, he has also been interested in questions pertaining to the essence of the soul and its immortality, the freedom of the will, the philosophical problem of God, causality, and the problem of being. It is "the simple Aristotelian-Scholastic metaphysics of common sense" that he holds, rather than an imposing or inspired system. He abandons the traditional concept of first matter because of the difficulties it incurs, and diverges from St. Thomas in his treatment of the problem of individuation; whereas St. Thomas seeks the principle of individuation in the relation of form to matter, and of the soul to its body, Geyser believes that the human soul, or every spiritual person, is essentially definite and individual. The concept of God is described as the crowning point of his philosophical thought, and is defined as the idea of a personal God who is the creator, sustainer, and governor of the world. Arguing that the ontological proof is not tenable, he accepts the remaining proofs in opposition to Kant and the Neo-Kantians.

Commenting upon the Aristotelian-Scholastic movement in Japan, F. Sato, who suggests the zeal of the missionary rather than the independence of the scholar, informs the reader of the paucity of Catholic philosophy in Japan, but expresses the hope of a more profitable future. P. Nink's interpretation of Kant's treatment of the ontological proof is disappointing if one expects more than exegesis in the most approved manner of the thirteenth century, or of a present-day proseminar. A number of papers contain discussions of phenomenology, as was to be expected in view of the connections of Husserl, Scheler, and Heidegger with the Catholic movement. Thus A. Dyroff writes on Heidegger's *Sein und Zeit,* and J. Maréchal on Husserl and Blondel. P. Wust traces Hedwig Conrad-Martius' metaphysics of time in its development through a series of stages which finally arrives at the region of the absolute, where speculative theology is considered in relationship to time and eternity. His opinion that the work of this writer is phenomenological in any reputable sense is entirely unfounded. There are numerous footprints of phenomenology in T. Celms' paper on the essence of philosophy, especially in the account of "philosophical reduction". There is "elimination" *(Ausschaltung)* and talk of "radicalism" in philosophy, which hardly fits into the present context. Certain "final principles" are to serve as the basis for that which is apprehended in "naïve experience". The reader learns that the philosophical attitude is "anti-natural" as distinguished from the naïve, prephilosophical attitude, which operates with a fixed absolutistic belief in the facts of life and the world. Celms is interested in "rescuing" these facts by basing them upon fundamental conditions. He believes that it is only this foundation in ultimate principles that will finally

stabilize life. This stabilization is portrayed as an infinite task to be performed and as the eternal task of philosophy. Such vagueness, coupled with the suggestion that the realization of values is an infinite process, is convenient for those who renounce all hope of truly "stabilizing" life in terms of freedom and justice.

The essay by F. von Rintelen on the significance of the philosophical problem of value is the most elaborate attempt in the collection. Value is defined provisionally as a meaning-content. The order of being is taken to be meaningful and free from contradiction; and the factor of striving toward a goal, which is of fundamental importance for the idea of value, is held to be a feature of the meaningful order. Purposes can be fulfilled to a greater or lesser extent, and in this sense we can speak of a higher and a lower in the domain of values. The writer asserts that an ideal fulfilment or a concrete ideal must be presupposed as a final norm. The essential qualities of values are to be abstracted from the given value-reality as demands, in the light of which reality is to be viewed. Thus the general concepts of value are objectively valid spiritual ideas. An indication of the writer's confession of faith is provided by a reference to God as the highest good.

Discussing the concept of law in the cultural sciences, Alois Fischer finds that there can be no demonstrable laws in history if by law is meant a regular connection, without exception, between conditions A and B. The problem of historical laws is reduced to the problem of an "individual law"—*i.e.*, to the question whether a unique, unrepeatable object possesses a law of its structure and occurrence. Unlike logic, mathematics, and natural science, history does not deal with general objects. It is claimed that all true knowledge is *philosophia perennis;* and obviously, everything depends upon the meaning of the term truth. The inadequacy of Fischer's vision acquires new significance when it is considered in connection with F. Sawicki's contribution on the philosophy of history as *philosophia perennis,* which ventures upon territory concerning which there should be no haziness. It must be admitted that Sawicki's discussion is as frank as its content is threadbare. He believes it to be easier to demonstrate in the philosophy of history than in metaphysics or epistemology, that there are basic truths which outlast the change of time and reach beyond the diversity of systems. In his view the philosophy of history is idealistic in the Platonic sense, in opposition to naturalism. The proposition that history in general has a meaning is stressed, which implies that it is working toward a goal. It develops that there is a divine world-plan being worked out in history, but it is also urged that the independent significance of a free human personality must be recognized. The alleged conflict between the rational and the irrational in history, which results in the final victory of *ratio,* can only serve to obscure the real issues of history. The author recognizes that collectivism is allied with naturalism;

it holds that mass movements are the deciding factor in history but, as he sees it, assigns little or no significance to the initiative of personality. The familiar argument that exploits the incompleteness of factual knowledge is applied to history. The author is only too ready to admit inadequacies and insuperable difficulties in the way of satisfactory historical generalization or explanation, and to appeal to his theological standpoint, which deals with the kingdom of God, the Christian idea of the fall through sin, and the idea of salvation through the Church. The indictment of "naïve" experience, the uniqueness of historical events, and the subjective certainty of belief, which were supplied by Sawicki's colleagues, may be regarded as different methods of supporting this conclusion.

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The Meaning of Right and Wrong. By RICHARD C. CABOT. New York, The Macmillan Company, 1933. Pp. x, 462.

This is not the usual type of ethical textbook or treatise. The author does not intend it to be such. "We face the need", he says in his introduction, "for ethical re-orientation about the worth of ethics itself. It is attacked by the psychological-medical group which today dominates public opinion almost as the medieval church did." Asking whether this attack is justified, he answers, "Partially, I think. There is a sense in which ethics and moralizing are as dead as last week's newspaper." He believes that the effort to manage people by exhorting them, scolding them, and lamenting their sins, by telling them what they ought to do and urging them to exert their will-power, is almost fruitless.

The most useful tools for preliminary attack upon any ethical difficulty Dr. Cabot finds to be the questions: (a) By what agreements have I bound myself in relation to the matter in hand? (b) Have I kept these agreements? (c) Have these agreements become unfit for the needs which they were originally made to serve? Should they therefore be re-fitted to the present need? Not that any simple command like, Keep your agreements, is the whole answer to the question, What is a man's duty? But it is the most immediate answer, and is included in the truer answer to which it leads up. "Behind the agreements are the desires which make, re-make, or break them. Behind desires are the facts in view of which the desires grow up. Well-informed desires are better than casual desires. But desires are not the last word in ethics. We must believe that they fit our needs and the world's needs if we are to follow them as our duty." Our desires are self-evident, but our needs only reveal themselves in four searching experiences, (a) in emergencies, (b) in scientific truth-seeking, (c) in creative art, and (d) in education. By these piercing experiences it is revealed

that our all-inclusive need, which can fulfil the specifications of an authoritative aim in life, is growth. The will to face any kind of reality turns out to involve the will to grow, and growth is the most characteristic aim of civilized man.

Any such statement of the logical framework of Dr. Cabot's theory of the meaning of right and wrong does it and him scant justice, because it leaves out those features which make his treatment vivid, arresting, and vital—the wealth of telling illustration drawn from literature and a rich and varied social experience, and the flashes of insight which register the reactions of a mind of unusual clarity, breadth, and vigor to the problems of man and the world, to the human situation as it now appears in this crisis of civilization. The influence of psycho-analysis is shown in the three striking chapters on tricks and devices of self-deceit. The author thinks that Freud has conferred one clear benefit upon ethics and education to balance the harm of his exaggerations. "By dramatizing the 'censor' who represses within us our obstreperous impulses, by popularizing the barbarous but useful term 'rationalization', he has focussed the attention of our time upon one of man's most comfortable but suicidal habits, the time-worn trick of self-deception." He states it to have been one of his chief interests in writing the book to put self-deceit on the ethical map and show that it covers an area as huge as all the sins of man. Other interesting features of the book are applications of the principles therein established to the practical moral problems of honesty, the keeping and breaking of agreements, due care, ordering and forbidding, ethical 'brakes and tractors'.

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The Challenge of Humanism. An Essay in Comparative Criticism. By LOUIS J. A. MERCIER. New York, Oxford University Press, 1933. Pp. viii, 288.

The author attempts to bring together new trends and old traditions by making a comparative analysis of the humanism of Irving Babbitt and Paul Elmer More, the rational imperialism of Ernest Seillière, and the traditional dualism of Greek and scholastic philosophy. His object is to bring all forces to bear upon a common enemy, naturalism. There are, according to Irving Babbitt, "sentimental naturalists", who believe in the ordinary will and expansive desires of man, and "Baconian naturalists", who find in material progress the true end and happiness of man. All naturalism tends toward monism, toward the merging of God, man, and the world in a single system which may be either materialistic or idealistic. Humanism, in challenging naturalism, reasserts the position of the Greek philosophers and the schoolmen concerning the dualism in man's nature, Man has higher and lower faculties, intellectual or spiritual qualities, in addition to animal or natural

desires; there must be, therefore, a law for man higher than the law for things. The humanist's psychology leads him to ethics and natural theology. Babbitt, who returned to this dualistic conception of man in his search for abiding values in literary criticism, would oppose an "inner check" to the ordinary will and expansive desires which control the naturalist, and by use of the "higher imagination" he would acquire a knowledge of the antecedently real which is beyond the experimentalists and pragmatists, who rest content with the "lower imagination". Since the inner check which we may oppose to our natural tendencies is an immediate datum of consciousness, it helps establish experimentally a higher and supernatural will. Babbitt's dualistic conception of man finds a parallel in the work of Seillière, who would subject the imperialism which is the moving power of man to reason and the experience of the race; and his tendency toward supernaturalism, based on the assumption that an immediate datum of consciousness can indicate the existence of a higher will, is furthered by More, who, encouraged by classical dualism, has undertaken a reexamination of the New Testament which renders the incarnation and resurrection of Christ "acceptable to a genuine sceptic" (229).

An elementary summary of pertinent scholastic doctrines, which follows the analysis of humanism, places the humanists in an unfavorable light by making them appear to search vaguely for a goal which scholasticism has already reached. This result is not attributable to unfairness on the part of the author, who writes from the Catholic point of view; it springs from the nature of humanism itself, which is apparently at its best in its negative capacity as a critique of naturalistic trends and at its worst in comparison with a completed system of philosophy. The mutual advantages of an alliance between humanism in its present position as a half-way house and scholasticism seem obvious. Scholasticism would place a buffer philosophy between itself and naturalism, and humanism would gain the moral prestige of alliance with numbers and age. Yet the possibility of an amicable alliance seems slight, for the humanist, fluctuating between the poles of the natural and the supernatural, is at one point near enough to scholasticism to be attacked as a heretic, as has already happened (178), and at other points so distant that humanism could become an Oxford Movement only by the use of seven-league boots.

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Kritik der sogenannten praktischen Erkenntniss. Zugleich Prolegomena zu einer Kritik der Rechtswissenschaft. Von ALF ROSS. Leipzig, Felix Meiner, 1933. Pp. 456.

This volume is, in my opinion, one of the most valuable ethical studies which have appeared in recent years. Not that I find it significant in the sense in which its author believes it to be significant. For he, on

the one hand, is convinced that he has demonstrated to the hilt the fundamental illusoriness of all moral judgments, the impossibility of all moral knowledge, and the unreality of all moral duty and moral value, however these be defined. Morality is for him no more than a pathological, though universal, phenomenon. The task of the philosopher, or rather the social scientist (for metaphysics is pure moonshine, and valid philosophical thinking is essentially scientific in character), is, first, to prove the illusoriness of moral belief and, second, to study with objective precision the individual and social expressions of man's moral delusions. I, on the other hand, find the author's central thesis wholly unconvincing, but regard the volume as significant none the less because it offers the best recent illustration of the complete inadequacy of a strictly scientific approach to morality. To me the author of this book is himself a most interesting phenomenon, typifying as he does in so distinguished a manner the modern scientific temper with respect to moral (and, by implication, to aesthetic, religious and other) values. The book is of genuine importance because it sets with the greatest clarity the all-important problem of the nature, implications, and validity of the moral experience, and reveals most convincingly the logical result of a purely objective and scientific interpretation of that experience.

The author's analyses of contrasting historical positions are highly illuminating, for he is thoroughly familiar with his sources and, in a sense, succeeds in subjecting successive ethical systems to a fair and even sympathetic scrutiny. Yet both his fairness and his sympathy are always medical rather than friendly, if I may so express it. From first to last he is diagnosing what his own presuppositions compel him to regard as human aberrations and illusions; never once does he really enter imaginatively into his patient's mind or give evidence of having shared, as an "agent" rather than an "observer" (as Professor Fite would put it), the experiences upon which all significant ethical theories must be based. I have found his larger argument to be perfectly consistent with his philosophical and scientific presuppositions (though his position is itself, I believe, fundamentally inconsistent), but since I wholly reject these presuppositions I must regard his conclusions as completely erroneous. In a sense, therefore, a detailed criticism of his successive analyses, though such criticism is occasionally called for, would really be beside the point. For the question at issue is a far deeper one and concerns the validity of the author's entire epistemology and resultant ontology, which he nowhere in this volume explicitly formulates or defends. The only adequate answer to Dr. Ross would be an extensive epistemological and metaphysical treatise. With due apologies, then, for attacking him without presenting him in turn with a fair target, let me attempt to summarize his argument as adequately as space allows, indulging, as I proceed, in certain more specific critical comments.

The Preface and Introduction contain a statement of the author's larger objective and a preliminary confession of faith. This is to be the first of four volumes designed to promote a better understanding of the task and method of jurisprudence through a critique of various basic legal concepts, problems, and doctrines. Now the latter have, by virtue of their origin and growth, become so inextricably interwoven with, and rooted in, ethical concepts of an ultimately metaphysical character, that they cannot be understood apart from these. Hence the present volume is philosophical in the sense of being a critical study of the main ethical systems which philosophers have created and which have been incorporated through particularization into concrete laws and practices. Yet, though philosophical, the approach is emphatically anti-metaphysical and anti-intellectualistic. The author has no use for metaphysics, which he regards as, without exception, the (scientifically) invalid product of irresponsible philosophical speculation—sheer fantasy and delusion. He is anti-intellectualistic because he is concerned not with the discovery of which ethical system is correct, for all are equally false, though in different ways, nor with the development of a true ethical theory, for all attempts to give an intelligible account of moral faith, or to validate moral knowledge, are hopeless, but solely with the analysis of typical ethical positions and an exposition of their self-contradictoriness and their ultimate reducibility to metaphysical illusion. The next two volumes are to deal with basic legal concepts considered in their relation to these misguided ethical systems, and the last is to contain a constructive account of the task and method of a sound jurisprudence uncontaminated by metaphysical superstition.

I have suggested that, from the very first, the author's cards are stacked against a philosophically adequate appraisal of moral experience and ethical theory. He does not, however, leave his explicit criticisms and conclusions unsupported by historical and logical analyses. As a sample of the latter I would cite the following argument. In his first chapter he points out that ethics is more than a technology, since it concerns itself primarily not with means or conditioned ends but with the final end or unconditioned determining ground of the moral will. It also involves more than a mere knowledge of man's chief good, for alleged moral insight invariably imposes upon the agent a command to think and act in a certain manner. In short, moral knowledge, "in being knowledge of the final end, the unconditioned basis (*Grund*) of the will, simultaneously determines (*setzt*) this end for the will or establishes (*darstellt*) this basis. Yet this statement is self-contradictory. For all knowledge is a knowledge *of something*, that is, of something which differs from the knowledge of it and which is given as independent of such knowledge. But if moral knowledge is itself to determine the end (*i.e.*, provide the basis [of moral action]), this end (or basis) cannot be given prior to and independently of such know-

ledge; and the latter cannot, in turn, be a knowledge of this end (or basis). And conversely, if [moral] knowledge is to be knowledge of the end, it cannot itself determine this end. Each alternative excludes the other" (19). Now this bit of logical analysis is typical of innumerable critical analyses throughout the book. The author is forever seeking to impale his opponents upon the horns of a dilemma. Here he correctly recognizes both that moral knowledge does claim to be objective in its reference and that it does give rise to moral imperatives. But because such commands present themselves to the moral agent in moments of moral insight, our author regards this insight as their source. He then argues that values so conceived cannot be objective values because they have been spontaneously *generated* by the knowing process. If, alternatively, the objectivity of values and the validity of our knowledge of them be insisted on, no moral obligation to cherish these values can arise. From this dilemma the author concludes (a) that "moral knowledge" is illusory, and (b) that objective values are non-existent. To me the entire argument reduces to a verbal quibble turning on the words "determine" (*setzen*) and "establish" (*darstellen*). Moralists do claim that moral knowledge determines or establishes man's moral duty and objective moral value in the sense of discovering or revealing them. The moral consciousness can and often has been given a subjective interpretation, but it need not be, and frequently has not been, so interpreted. For moral value may be said to be truly discovered, and a true sense of moral duty to have arisen from this discovery, in which case the author's entire argument falls to the ground. Many of the author's other logical analyses are sound, but some of his most crucial arguments consist in the presentation of dilemmas no more valid than the one here examined.

In Chapter II Dr. Ross classifies ethical systems into those (1) which rest ultimately on the category of the good, or value, and (2) which are based on the category of duty. Among the former he lists, as fundamentally related types, utilitarianism and the ethics of potentiality (*Potenzethik*) to which the doctrine of natural rights is added as a special variant. Kantian and all derivative ethical systems comprise the second class.

(1) Theories based on the concept of value agree in admitting that the consciousness of value involves an emotional attitude, *i.e.*, that value must remain meaningless to a pure intellect divorced from all consciousness of pleasure and pain, feeling and striving, desire and repugnance. They differ, however, with respect to the objectivity of value.

(a) Objective value-theories declare value to be as genuine an object of knowledge as are real (*i.e.*, physical) objects, and the apprehension of value to involve the use of a special cognitive faculty, *i.e.*, feeling (32). Meinong, Brentano, Scheler, and Kelsen are cited as

exponents of this general position. Our author gives it as his opinion that these " 'objective values', like so many other speculative discoveries, really have their roots not in scientific thinking but in religious and practical needs which lie outside science" (36). This, of course, at once marks them as illusory. Philosophy in general is at this point censured for supporting the doctrine of the objectivity of values. Dr. Ross feels called upon to admit with shame that professional philosophers have fallen far behind professional scientists on this point. Philosophy seems no longer, as in the days of Bruno, to be the keen champion of critical (*i.e.*, scientific) thinking but rather the guardian of metaphysical dreams (36). "Thus the metaphysics of value still finds its best support in philosophy; for who is better qualified than 'the philosophers' to conceal a poverty of ideas behind a veil of sensuously rich conceptual constructions? 'The philosophers' are like the weavers in Andersen's fairy tale[1] of the king's new clothes; they weave and weave, and no one dares admit that the looms are bare for fear of being thought incapable. Works on logic, ethics, the philosophy of law, the philosophy of value, and the philosophy of religion, are innumerable, in which the belief, so edifying to man's practical aspirations, in the objective, absolute, and eternal character of values and ideals is defended and metaphysically established. . . . The amount of ordinary critical human intelligence which these constructs contain is in all cases less than can be found in a novel by Aldous Huxley or Rose Macaulay" (37). I have quoted this diatribe at length because it so clearly reveals Dr. Ross' complete allegiance to the natural sciences as such and his marked animus against all who dare philosophically to defend the objectivity and knowability of values. His more detailed criticisms (37-53) of the specific doctrines of the writers just mentioned are, on the other hand, very shrewd and at times quite valid.

(b) Subjective theories of value (53 ff.) conceive of the consciousness of value as a mere emotional state of the agent and nothing more. When I say that an object has value I merely mean that I am interested in it, take pleasure in it, or desire it. Hedonism, for example, assumes that introspection reveals subjective pleasure or interest to be the cause of voluntary conduct. This assumption gives rise to teleological explanations of human (and even animal) behavior, explanations which assert that the organism is animated by a hidden energy, tendency, instinct or the like (all sheer constructs) expressing themselves subjectively in the feeling of pleasure, interest or desire, which, in turn, are conceived to be the cause of the organism's behavior. The author regards the alleged testimony of introspection as misleading, rejects all such types of teleological explanation as unilluminating, and accepts the behavioristic or physiological type of explanation (54 ff.,

[1] A quotation from which is given as the book's *Leitmotiv* at the head of the opening chapter.

437), in terms of stimulus and conditioned and unconditioned response, as a satisfactory working hypothesis, though he is careful to avoid the error of certain "philosophically less informed Americans" who have transformed a methodological principle into the philosophical doctrine that consciousness does not exist. He now (71) raises the question as to whether value can be based on interest and answers it in the negative, on the ground that men commonly judge interest to be subjective and variable and do not, as the subjectivists argue, automatically endow the object of interest with enduring moral value. He then proceeds (74) to analyse the concept of value or the good, considered (α) as a relation, (β) as a quality. (α) It is not, he points out, definable functionally as the object of empirical desire, for moral value is invariably judged to be *worthy* of desire, whether or not it be actually desired. Hence those who wish to define it in terms of desire must indulge in the metaphysical postulate that it is the object which man's *real* nature *unconsciously* strives to attain even when his *empirical* nature desires something quite different—a doctrine which, *quâ* metaphysical, he finds wholly untenable. (β) Nor does he regard the notion, most clearly formulated by G. E. Moore, that goodness is a distinct specific quality of objects, as any more plausible (77). Having thus shown the concept of the good, like that of moral knowledge, to be inherently unintelligible, he concludes that the term "goodness" is merely "the direct expression of a subjective state, or feeling, which does not allow of intellectual determination" (82). This argument is further developed throughout the remainder of the chapter and tested at length with respect to specific historical positions in the following three chapters.

Chapters IV and V are devoted to a detailed examination of Utilitarianism in its historical development from Bentham through Mill and Sidgwick to Moore. This long critical analysis is one of the most interesting and valuable in the volume. As might be expected, the author's conclusions are invariably negative—not one of these thinkers succeeds in giving an intelligible account of morality. The fault lies not so much with them, however, as with their subject-matter—"the good as a basic moral concept is an internally self-contradictory and meaningless concept. *There simply is no way out* for clear and consistent thought" (131). Even Duguit's doctrine of social harmony (163 ff.), Spencer's *a priori* evolutionary ethics (168 ff.), and Ihering's fiction of a super-individual society (174 ff.), which are all entitled "constructs in aid of Utilitarianism", are unable to save that doctrine from its inherent inconsistencies. Nor are the English neo-Idealists (Green, Bradley, and Paton), the Idealistic Utilitarians (Rashdall, Laird, Moore, etc.), or the neo-Benthamites (Hobhouse and Laski) any more successful. This "more recent English moral philosophy is characterized by a pronounced eclecticism. It has its roots

in Benthamism but is also strongly under the influence of German Idealism. What it has gained in fidelity to the real facts of the moral life it has lost in scientific consistency, which may well be due to the fact that the moral simply does not lend itself to rational formulation in a philosophical theory" (195).

In Chapter VI the ethics of potentiality, the doctrine of natural rights, and sociological ethics are examined. These theories, like Utilitarianism, are based on the concept of the good rather than of duty; they differ from Utilitarianism, however, in seeking to trace goodness not to merely human strivings, nor to man's psychological powers, but to tendencies deeply rooted in objective reality and expressive of the world's inner teleological nature and destiny. (α) The first great exponent of objective teleology is Aristotle[2] (202 ff.), who combines the Socratic doctrine that man's nature yearns after objective goodness, however shortsighted and perverse may be his actual empirical desires (virtue is knowledge), with an immanent idealism and a dynamic teleology. Through his doctrine of potentiality Aristotle roots his ethics firmly in his metaphysics—man, even as a moral agent, is part of a teleological Whole. The core of Aristotle's ethics is "the irrational movement, the striving, the potentiality (*Potenz*), which constitute man's real being, and in functional relation to which and in terms of which the good presents itself—*not* rational insight, as though the good were given directly as an object of pure knowledge, or as a pure rational value beyond all reality" (210). This interpretation of Aristotle's moral theory is defended at length against Dittrich's sharply contrasting view. In Thomas Aquinas (218 ff.) we find the same conception of goodness and the same metaphysical assumptions, though worked out in greater detail and made to culminate in Christian theology. Both positions are teleological, with God as the final end and the ultimate explanation of all reality; both are therefore animistically anthropomorphic. Aquinas' Christianity expresses itself through the addition of the theological virtues to Aristotle's intellectual and moral virtues. "The ethics of Aquinas", Dr. Ross again insists, "is not an intuitive rationalism but a consistent development of Aristotle's ethics of potentiality or perfection" (231). (β) Grotius' doctrine of natural rights (231 ff.) is now found to be closely related to the teleology of Aristotle and Aquinas. For natural right is conceived of as a supersensible, invisible, coercive right of the individual and, as such, to have its roots in nature's inner teleological essence. It expresses itself empirically in actual physical coercion or positive right. Thus "natural right is related to positive right as potentiality is to actuality, idea to revelation, metaphysics to physics" (240). (γ) Even the French sociologists, Comte, Durkheim, and their followers, despite their laudable efforts to escape from metaphysics, preach a doctrine which rests on vitiating meta-

[2] Plato's ethics is nowhere discussed, nor, strangely enough, is Spinoza's.

physical and teleological assumptions. For Comte (245 ff.) believes in the perfectibility of human nature and conceives it to depend upon the operation of natural laws over which man has no essential control. These laws are not thought of mechanistically, as Dr. Ross conceives them, but teleologically, *i.e.*, as involving a forward movement towards a goal definable only in terms of value or goodness. Comte's whole philosophy thus rests on a metaphysical foundation similar to that of Aristotle and Aquinas. Dr. Ross also points out Comte's inconsistency in making man an essentially passive product of natural laws, yet urging him to hasten mankind's progress towards its final goal; it is "absurd", he says, to describe one and the same thing as both necessary and morally obligatory (255). (Ross, in contrast, would regard man as capable of rational and purposive action while wholly subject to unalterable mechanico-physical laws. "When we say that natural laws are superior to human volition we mean that we can in no way alter the law-abiding union of conditioned circumstances and [their] effects, but not at all that the actual course of nature cannot be influenced by the human will. All technology proves the opposite. Theoretically there is no limit to our might" (254). Here the blind mechanical laws of nature are interpreted as operating in part *through* human nature and human volition. Yet it may surely be asked whether this allows of any significant, *i.e.*, genuinely purposive or rational human activity. Is man any freer to act intelligently under the absolute dominion of mechanical than of teleological forces?) Durkheim (258 ff.), like Comte, is animated by moral incentives which also allow only of a metaphysical interpretation, for all his allegiance to scientific method and his conscious effort to eschew metaphysics. He conceives the task of sociology to be, first, the study of moral phenomena and their causes and laws, second, the formulation of moral rules to serve as right and valid norms of conduct. Here lies a clear distinction (not noticed by Durkheim himself) between empirical fact and metaphysical value, between what is and what ought to be. But the latter, Dr. Ross insists, cannot be derived from the former. Durkheim assumes that there is such a thing as a true objective moral ideal, which is operative in man's inner strivings and tendencies, is confusedly apprehended in ordinary moral consciousness or feeling, and expresses itself overtly in social laws and practices. Durkheim therefore believes that, if the latter be studied with scientific precision, the moral ideal can, as it were, be distilled out of them and given adequate rational expression. As such, it must command our moral respect and obedience. But all this clearly involves an appeal, once again, to a metaphysical and teleological view of nature and specifically of human nature. Durkheim has thus not repudiated but adopted the essence of Thomism and has discarded only the *a priori*, rationalistic ethical approach.

The left wing of modern French sociology, meanwhile, headed by

Lévy-Bruhl and Bayet (273-274), has clearly distinguished the strictly scientific from the normative approach to moral phenomena and has sought to limit itself exclusively to the former. Dr. Ross approves highly of this attitude; the movement constitutes, he says, "an extraordinarily great advance upon the traditional movement" (274), for, despite the philosophical ineptitude of Lévy-Bruhl ("who is after all not a professional philosopher"), it is headed in the right direction.

I have summarized the author's main arguments thus far in some detail because this portion of the book seems to me to be particularly thought-provoking. For I believe with Dr. Ross that the attempt, so frequently made, to run with the hare and hunt with the hounds, to subscribe to an undiluted scientific naturalism and still to preserve what is essential to morality, is indeed doomed to failure. Modern naturalistic philosophers, sociologists, and psychologists cannot have it both ways; a consistent naturalism which repudiates every form of idealistic and teleological metaphysics can go far in the "objective" study of moral phenomena but cannot consistently advance a step towards the determination of ethical norms or moral values. Nature, as science conceives of it and studies it, can never provide man with a goal worth striving for or one capable of arousing his respect and commanding his moral allegiance. This has been urged time and again by adherents of the more orthodox ethical tradition, but these urgings have been ignored by the naturalistically minded on the ground that the older metaphysical outlook has been superseded by modern science. Now at last we find an arch-naturalist arguing for the very same thesis with great force and clarity. Let us hope that, coming from his pen, the argument will carry greater weight in naturalistic circles.

(2) Chapters VII-XII are devoted to a searching critique of ethical formalism as contained in the doctrines of Kant and his followers. Ethical systems which make duty their basic concept are, as I have already said, sharply distinguished from systems which start with the concept of the good, or value, and seek to develop its meaning and implications. Kant's position is reduced to the strictest formalism, in which the attempt is made to deduce the entire content of morality from a sheer sense of duty and an empty concept of universality. I must confess that, if the various Kantian utterances which are here cited are taken in their most literal sense, the author's criticisms seem to me to be largely valid. I should myself be prepared to argue, however, that Kant's larger insight, for which there is also documentary evidence, receives but a distorted and misleading expression in his strictly formalistic propositions and that, if his writings be taken as a whole and interpreted with imagination and sympathy, they reveal a conception of morality and its implications which is in many respects truly enlightening and genuinely intelligible. Here again I feel that our author has failed to relate Kant's formal doctrine to the

profound moral experience which that doctrine was intended to express. But of course Dr. Ross and I differ as to the experience itself —I am prepared to accept it as valid and significant; he, on the other hand, judges it to be a deplorable illusion.

Fichte's development of the Kantian thesis is described as a "philosophical curiosity" (336), pure "fantasy, poetry, chimera" (404), though Fichte's basic criticisms of Kant are accepted as sound. The author proceeds to demolish the doctrine of the pure will as formulated by Cohen and Natorp of Marburg (337 ff.) and to point out that the "psychological materialism" of Fries, Leonard Nelson (to whom 30 pages are devoted) and certain Dutch and Danish philosophers has its roots in Kantian formalism and is, for that and other reasons, unsound. The more orthodox Fichte-Schelling-Hegel-Windelband tradition (395 ff.) receives briefer and characteristically critical notice.

This brings us at last to the concluding chapter. "The most important result of the preceding analyses is that moral consciousness (consciousness of value and consciousness of duty) has not been proved to be a genuine consciousness of an object possessed of the character of real objectivity . . . but only a composite consciousness consisting of a subjective irrational experience of an 'impulse' or 'feeling of tension' plus a representation of a situation (*Sache*) or an action" (429). The words "duty" and "value" are therefore wholly lacking in significance and wholly meaningless, though they indicate the presence and suggest the nature of this irrational inner feeling, and the claim that moral doctrines express meaning, rationality, cognitive insight, and philosophical validity is wholly illusory. Yet this illusion may well be inescapable. "It is likely that this rationalization of the irrational, this objectification of the subjective, this clothing with logic of the experience which takes place in moral consciousness is, psychologically considered, an elementary process of such compelling necessity that no one can wholly escape its dominion. The illusion of moral objectivity is probably a true *idolum tribus*" (431). I have already indicated the task which, in Dr. Ross' opinion, alone remains for the moral philosopher. All speculation concerning the validity of ethical theories is an intellectual *fata morgana*. A radically new outlook must therefore be adopted. Let us "no longer study the impulses, which express themselves in morality, 'from within', as states of consciousness, but 'from without', as *psycho-physical phenomena in a psycho-physical organism*" (437). In short, from now on let ethics be a branch of behavioristic sociology. Dr. Ross proposes to proceed along these lines in the remaining volumes of the present work.

I should like to conclude this review by asking Dr. Ross, and all who are disposed to agree with him, the following questions. (1) He obviously believes in the value of his projected program as giving promise of being socially beneficial. Upon what standard does he base

this belief? He has censured Comte and Durkheim, among others, for attempting to define the goal of human progress and to hasten its realization. But has he not himself implicitly accepted a goal for which he would like to have men strive, a goal definable in terms of the more general acceptance of his own scientific outlook? If so, is he too an unhappy victim of man's "inescapable" moral illusion? And if his own efforts are indeed directed towards a goal, on what basis can he argue that this is a good goal, worthy of achievement, since goodness has for him no intelligible meaning? (2) The present volume is dedicated to the revelation and unmasking of an illusion, on the ground that illusions are bad and the apprehension of truth good. Once again, why should we condemn illusion and eulogize truth, if goodness and badness have no meaning or significance? (3) What attitude to human conduct and social intercourse would Dr. Ross have us adopt, now that all distinction between good and bad has been invalidated? Moral philosophers have ever attempted to make human conduct more reasonable, *i.e.*, to impregnate "moral feeling" with a measure of rationality, in the belief that it is better for men to scrutinize their motives and objectives and to render these as reasonable and as beneficial to themselves and to society as possible, than merely to trust to blind feeling and irrational impulse. What alternative does Dr. Ross now propose? Would he seriously advocate a romantic reliance henceforth on pure feeling, untouched and unguided by rational considerations of individual and social welfare? (4) Finally, our author has completely repudiated teleology and has subscribed to the purely mechanistic hypothesis. But must he not regard himself as having, in the composition of this volume, acted purposively, *i.e.*, teleologically? Or are his own arguments and conclusions to be interpreted as the meaningless and valueless product of blind psycho-physical behavior? If not, by what criterion can his own utterances be judged to be true and valuable? And why, once again, assuming "truth" to have an intelligible meaning, must we believe that science alone can give us truth?

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DESCRIPTIVE NOTICES

Alexander the Great and the Unity of Mankind. By W. W. Tarn. The Raleigh Lecture on History. New York, Oxford University Press, 1933. Pp. 46.

In this masterly essay Mr. Tarn has investigated in detail a question that he had only posed and answered tentatively and very briefly in the brilliant chapters on Alexander contributed by him to the sixth volume of the *Cambridge Ancient History.* The question is: where did the concepts of the unity of mankind or the brotherhood of man originate? Mr. Tarn begins by discussing the meaning of *homonoia* before Alexander's time. He then passes on to consider its significance in the Hellenistic Age—and of its equivalent, *concordia,* in the Roman imperial epoch—and the close connection of *homonoia* with the theory of kingship. He further shows conclusively that the absolute ruler, whose duty it is to promote the unity of mankind, has no place in the political theory of the early Stoics, and that the world-state of Zeno and other representatives of that philosophical school during the third century was something essentially different. In a very noteworthy paragraph he also demonstrates that, though the ideas underlying the curious Utopia of Iambulus are a patchwork from various sources, they owe little or nothing to Stoic thought. On the other hand, the new concept of *homonoia* and other closely related ideas appear in Theophrastus and in certain of his contemporaries in the circle of the Macedonian ruler, Cassander. By a process of elimination Mr. Tarn leads his readers on to "the very strong presumption"—with characteristic modesty he admits that exact proof is impossible—that the first man who put forward the theory of the brotherhood of man was Alexander himself. Thus he vindicates the accuracy of statements to that effect in Arrian, Eratosthenes, and Plutarch which critics have hitherto treated as unworthy of belief. The value of this fundamentally important contribution to the history of ancient political theory is greatly enhanced by fifteen pages of annotations and references to authorities and by an appendix on the date of Euhemerus, whose *floruit* Mr. Tarn would place somewhat earlier than is usually done.

M. L. W. Laistner

Cornell University

Initiation à la philosophie contemporaine. Par Henri Serouya. Paris, La Renaissance du Livre, 1933. Pp. 312.

Of the eighteen essays thus published by the author of *Initiation à la peinture d'aujourd'hui,* perhaps the most useful are those on Boutroux, Brunschvicg, Hamelin, and Meyerson.

Ralph W. Church

Cornell University

Gedanken zur Naturlehre. Von Herrmann Burg. Bern-Berlin, Hans Huber, 1933. Pp. 72.

This study, according to the author, makes no claims to originality or systematic character. It appears to be guided by the objective of describing and explaining "the natural course of our perceptions without employing

the mythological doctrines of bodies, forces, laws, and logical necessities". But what, in fact, results is simply a kind of vortex-theory of matter in which space and time are taken as fundamental "Wahrnehmungselemente". Electrons and protons are defined as comparatively permanent "Strömungsfiguren" which we perceive in our spaces. With matter thus accounted for, the author then pays his respects to life, evolution, memory, instinct, and man. There is nothing in this study to controvert the initial modest disclaimer.

ALBERT E. BLUMBERG

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Nouveau traité de la liberté chrétienne. Justification et sanctification. Par A. KOEBERLE. Paris, Félix Alcan, 1933. Pp. viii, 250.

This book is a study of the two chief problems of Protestant Christian ethics: justification and sanctification. The author accepts the Bible as his ultimate authority and strictly follows the terminology of Lutheran theology. However, in his discussion of grace, faith, liberty, obedience, fear of God, prayer, repentance he reveals his intimate acquaintance with modern psychology and philosophy. He convinces the reader that the above mentioned terms refer to experiences which as such are psychological facts and may be of the highest ethical value to those who have them. But can an individual have these experiences without accepting the dogma? The author does not raise this question. In his opinion religious experience and dogma are inseparable.

P. EPP

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Science in Defense of Liberal Religion. A Study of Henry More's Attempt to Link Seventeenth Century Religion with Science. By PAUL RUSSELL ANDERSON. New York and London, G. P. Putnam's Sons, 1933. Pp. 232.

The sub-title is the more accurate designation of the contents of this book. More's Platonism and Cartesianism employed to make Christianity reasonable is contrasted as a mediating position with an unsatisfactory orthodox Anglicanism on the one hand and an unsatisfactory sentimental evangelicalism on the other. A very valuable treatment of More's background and developing thought is given with some detail; one suspects that this study is a digest of an academic dissertation. Contemporary liberal religion may learn some lessons from the parallel seventeenth-century attempt to harmonize religion with metaphysics and science. The two dangers are a devitalized religion and an untenable science.

VERGILIUS FERM

THE COLLEGE OF WOOSTER

The Meaning and Truth of Religion. By EUGENE WILLIAM LYMAN. New York, Charles Scribner's Sons, 1933. Pp. xvi, 468.

This is a good middle-of-the-road text for a course in the philosophy of religion, providing the teacher is qualified to give supplementary information on the many references it contains. Lyman's reputation as an eclectic (in the sense of a collector of views and surveyor of philosophical landscapes) is borne out in this volume. He passes beyond eclecticism to a

philosophically conservative theistic viewpoint. There are many points that cry out for debate. I for one deprecate the term "truth" in the title. Does religion have its own unique truth? Can "religious experience" carry the heavy load put upon it by this and so many contemporary liberal Christians?

VERGILIUS FERM

THE COLLEGE OF WOOSTER

Humanism and New World Ideals. Together with the Full Text of a Humanist Manifesto. By OLIVER L. REISER. Yellow Springs, The Antioch Press, 1933. Pp. 48.

This brochure of four essays and a supplement, previously published in *The New Humanist,* is an animated attempt to bring philosophy to bear upon the tangled problems of our contemporary American civilization. Believing in the power of reason and social intelligence to change human nature and rebuild society, the author traces the historical development of American philosophy, makes a plea for a revised social philosophy to give direction to social processes, and advocates humanism as a philosophic method for removing contradictions in our personal beliefs and social practices. Two principles give unity and continuity to the essays: The organismic theory of society and the concept of growth as "the only aim of life".

WALTER S. GAMERTSFELDER

OHIO UNIVERSITY

Das Problem der Gleichzeitigkeit. Von KARL VOGTHERR. München, Ernst Reinhardt, 1933. Pp. 195.

After a short discussion of "The Principles of Geometry" the author "arrives at the conclusion: only Euclidean geometry is valid, all of whose theorems can be proved from immediately evident axioms and are *a priori* certain" (34). What is thus held true of geometry is also held true of classical "chrononomy" and kinematics, whose principles "belong to the necessary foundations and presuppositions of every possible physics" (105). When one is conscious of being infallibly right, of course one does not argue with those who differ: one can only point out to them the error of their ways (*blindes Zufassen bei solchem Herumtappen im Dunkeln*) (110).

EVANDER BRADLEY MCGILVARY

UNIVERSITY OF WISCONSIN

Zur Mythologie der Gegenwart. Gedanken über Wesen und Zusammenhang der Kulturbestrebungen. Von GERHARD VON MUTIUS. München, Ernst Reinhardt, 1933. Pp. 128.

Myths are not exclusively the creation of antiquity or of primitive peoples but are a universal aspect of human culture and a perennial product of the human capacity to create. This "vital phantasy" works constitutively in every branch of culture and forms a middle ground between reality and illusion. Knowledge and action tend to set men apart from nature; the reflective imagination is able to restore him to harmony, to make him at home in his world, to regain for him the confidence which action and knowledge require, to idealize suffering and banish fear. In modern life mythology has a negative and a positive rôle: to combat other (bad) myths—historical materialism, mainly—and to supplant them with good myths. A series of chapters then discusses the myth in politics, society, economics, science,

education, art, and finally in religion, which is called the "sublimation" of myth.

GEORGE H. SABINE

CORNELL UNIVERSITY

Meaning and the Western Way. By CHANDLER BENNITT. New York, The Hidden Press, 1933. Pp. x, 246.

Philosophers are allowed to conclude anything they please. In keeping with this affirmation the author speculates on a theory of reality employing a Jungian psychology as a jumping-off place. I find the whole treatment obscure. There is no general ontological classification into which it can be placed. The author is either a genius with some rare philosophical insight or a fantastic speculator with an imagination gone riot. Reality is held to transcend actuality and meaning, its two specific, fundamental, and indefinable forms. Western scientists appear to have plowed lamely the furrows of actuality; eastern mystics, meaning.

VERGILIUS FERM

THE COLLEGE OF WOOSTER

The Buddha and The Christ. An Exploration of the Meaning of the Universe and of the Purposes of Human Life. The Bampton Lectures for 1932. By BURNETT HILLMAN STREETER. New York, The Macmillan Co., 1933. Pp. xvi, 336.

The title is too narrow, the sub-title too broad, to represent the contents of the book. According to the preface the intention of the volume is to explore the question whether materials offered by the comparative study of religion throw light upon the character of the Unseen Power behind the Universe. The title would lead one to hope for a clarifying comparison, with equation of similar motives and contrast of disagreeing ones. What one gets is a desultory discussion of many topics concerning the two fields ranging from "Science and Religion" to "Pain" and "Action and Ideal". There is no sustained unity connecting one chapter with another, or the various parts within the single chapters themselves. The material might have been used in many other connections, and given many other titles. Only the second chapter, which repeats the general title, bears directly upon the central thesis.

ALBERT E. AVEY

THE OHIO STATE UNIVERSITY

Christianity and Philosophy. By D. MIALL EDWARDS. New York, Charles Scribner's Sons, 1933. Pp. XVI, 368.

This is a worthy topic in these days of the searching of traditions. If Christianity is to stand the test of time it must found itself upon an acceptable philosophy. The discussion moves from a preliminary consideration of the function and method of philosophy, to the nature of religious experience; then to naturalism and idealism as possible bases of a Christian philosophy, idealism, of course, offering the only possible alternative. The final statement of the structure of the Universe is given in terms of a hierarchy of grades and values closely akin to that of emergent evolution. Against this background is then presented a discussion of the Christian conception of God, the doctrine of the person of Christ, and the Trinity. The discussion has many creditable touches, in its liberal interpretation

of ancient phrases and its attempt to lay bare the psychological roots of Christian theology. At numerous points, however, it gives the impression of a *defensio fidei* rather than of an independent and impartial analysis. After all, the important question is not whether an interpretation of Christianity can be formulated which is not inconsistent with independent philosophy; but rather, whether beginning independently and thinking things through one comes out to Christianity. Is Christianity *inevitable*? Or is it only *possible*? On this alternative the present discussion does not offer crucial evidence. Perhaps it may be a stimulus to a still more decisive analysis of the problem.

ALBERT E. AVEY

THE OHIO STATE UNIVERSITY

La liberté scolaire et l'état. Régimes soviétique, français, belge et hollandais. Par PRANAS DIELININKAITIS. Paris, Félix Alcan, 1933. Pp. 310.

This is a study, historical and comparative, of three types of systems for the schooling of a people. It seeks a principle of reconciliation between the demand for political stability and the rights of ethnic and sectarian minorities to doctrinal autonomy in respect of schools. It finds that principle indicated in the evolution of policy in the Low Countries—a policy of required "minima" as to civic and moral instruction, and certain "externa", with complete "freedom" in other respects; a freedom made realizable by subvention of private schools to a level of equality in resource with the public schools. There is, perhaps, in the elaboration a quality of special pleading, but the case is admirably presented.

T. H. EATON

CORNELL UNIVERSITY

Die Grundlagen der Geometrie. Ihre Bedeuting für Philosophie, Physik, und Technik. Von HUGO DINGLER. Stuttgart, F. Enke, 1933. Pp. viii, 76.

The definitions and axioms of geometry rest on immediately experienced practical activities, whence follows the priority of Euclidean to non-Euclidean geometry. All technical applications and refinements of geometry proceed from immediately apprehended differences and dependences *(Verschiedenheits- und Abhängigkeitserlebnisse)*, which are ultimately the ground of all knowledge. By thus grounding the notions of plane, rigid-body, etc., on mental operations defined with a show of rigour, Dr. Dingler believes he has given a death-blow to the "formalistic calculations in the void propagated by Einstein and his group", as well as to the "senseless absolutizing of formal organization in political Bolshevism" (*Vorwort*, iv-v).

However, Dr. Dingler does not realize that the attempt to retain Euclidean geometry in modern physics is dubious (*cf.* Nicod's criticism of Whitehead); that his definition of rigid bodies in non-empirical terms commits him to the same impossible separation of definitions from experience that characterizes his neo-positivistic critics (*cf. Erkenntnis*, 1931-32); and finally, that the philosophers of bolshevism have always objected to logical formalism in science and politics for activistic reasons as irrelevant to the analysis of geometry as Dr. Dingler's own psychologistic arguments.

PHILIP PAUL WIENER

COLLEGE OF THE CITY OF NEW YORK

The following books were received during the months of February and March:

Morals and Politics. Theories of Their Relation from Hobbes and Spinoza to Marx and Bosanquet. By E. F. CARRITT. New York, Oxford University Press, 1935. Pp. viii, 216.

Political Ethics. An Application of Ethical Principles to Political Relations. By DANIEL SOMMER ROBINSON. New York, Thomas Y. Crowell Company, 1935. Pp. xviii, 288.

The Meaning and Varieties of Love. A Psychological Analysis and Interpretation. By J. W. BRIDGES. Cambridge, Sci-Art Publishers, 1935. Pp. xxviii, 240.

Spenser's Faerie Queene. An Interpretation. By JANET SPENS. New York, Longmans, Green and Co., 1935. Pp. 144.

The Illusion of Immortality. By CORLISS LAMONT. New York, G. P. Putnam's Sons, 1935. Pp. xii, 294.

Materialism, the Scientific Bias. By HENRY FELIX MINS, JR. A thesis. New York, 1934. Pp. 120.

The Philosophy of Edmund Husserl. By ANDREW D. OSBORN. A thesis. New York, 1934. Pp. 116.

The Inevitability of Communism. By PAUL MATTICK. New York, Polemic Publishers, 1935. Pp. 48.

Beauty and Human Nature. Elements of Psychological Aesthetics. By ALBERT R. CHANDLER. New York and London, D. Appleton-Century Company, 1934. Pp. x, 382.

La mythologie primitive. Le monde mythique des Australiens et des Papous. Par LUCIEN LÉVY-BRUHL. Paris, Félix Alcan, 1935. Pp. xlviii, 336.

La pensée. II. Les responsabilités de la pensée et la possibilité de son achèvement. Par MAURICE BLONDEL. Paris, Félix Alcan, 1934. Pp. 558.

Signification de l'histoire de la pensée scientifique. Par FEDERIGO ENRIQUES. Paris, Hermann & Cie, 1934. Pp. 68.

Structure de la pensée et définitions expérimentales. Par PAUL RENAUD. Paris, Hermann & Cie, 1934. Pp. 24.

La causalité des théories mathématiques. Par GEORGES BOULIGAND. Paris, Hermann, & Cie, 1934. Pp. 42.

La notion de liberté et la crise du déterminisme. Par R. S. LACAPE. Paris, Hermann & Cie, 1935. Pp. 42.

Wahrscheinlichkeitslehre. Von HANS REICHENBACH. Leiden, A. W. Sijthoff's Uitgeversmij, 1935. Pp. x, 452.

Der Staat, seine geistigen Grundlagen, seine Entstehung und Entwicklung. Von KURT SCHILLING. München, Ernst Reinhardt, 1935. Pp. 324.

Untersuchungen zu Heraklit. Von OLOF GIGON. Leipzig, Dieterich'sche Verlagsbuchhandlung, 1935. Pp. viii, 164.

Platon. Die Philosophie des heroischen Vorbildes. Von JOACHIM BANNES. Berlin, Walter de Gruyter & Co., 1935. Pp. viii, 146.

Die systematischen Grundlagen der Pädagogik Eduard Sprangers. Von EMILIE BOSSHART. Leipzig, S. Hirzel, 1935. Pp. x, 178.

Die Menschliche Gesellschaft in ihren ethno-soziologischen Grundlagen. Fünfter Band: Werden, Wandel und Gestaltung des Rechtes. Von RICHARD THURNWALD. Berlin und Leipzig, Walter de Gruyter & Co., 1935. Pp. viii, 232.

NOTES

The *Review* announces with deep regret the death on February 21, 1935, of Andrew Campbell Armstrong, professor of philosophy, emeritus, at Wesleyan University, Middletown, Connecticut. Professor Armstrong was born August 22, 1860, and graduated from Princeton University in 1881. He studied in Princeton Theological Seminary from 1882 to 1885 and was associate professor of ecclesiastical history at the same institution in 1886-87. He was instructor in history at Princeton University in 1887-88, and William Griffin professor of philosophy at Wesleyan from 1888-1930. He was chairman of the section of metaphysics at the St. Louis exposition in 1904; president of the American Philosophical Association in 1915 and chairman of the Committee on International Coöperation from 1916 to 1927; honorary secretary of the Sixth International Congress of Philosophy in 1926 and also of the committee in Coöperation with the Seventh Congress in 1930, and was chairman of the Committee on Selection of Delegates. He was lecturer at the Hartford Theological Seminary in 1902 and at Columbia University in 1904. Dr. Armstrong was author of *Transitional Eras in Thought; Philosophy and Its History,* and was associate editor of the *New Princeton Review* in 1887-88; coöperating editor of the *Psychological Review* from 1904 to 1910 and translator of Falckenberg's *History of Modern Philosophy.* He was the recipient of many honorary degrees, including an L.H.D. from Wesleyan in 1930.

Under the joint auspices of Princeton University and the American Council of Learned Societies, a Summer Seminar in Arabic and Islamic Studies will be held at Princeton University from June 20 to July 31, 1935. The Seminar will be under the direction of Professor Philip K. Hitti of Princeton University.

At the author's request the Editors of the *Philosophical Review* call attention to the following errata in the translation of the article by Professor André Lalande, "Philosophy in France, 1933-34", in the issue of January, 1935. Page 2, footnote 8. After "the remarkable article" read "by J. Baruzi, *Le point de rencontre de Bergson et de la mystique*".

Page 4, line 15. Instead of "compact" read "concise".

Page 5, line 10. Instead of "logical sarcasm" read "contentiousness".

Page 5, line 30. Instead of "After a century of reaction" read "At a century's distance".

Page 12, line 25. Instead of "as Kant was victimized by his imaginary dove" read "as did Kant's imaginary dove".

Page 13, lines 9-10. Instead of "as the center of a disturbance", read "as a phenomenon crossed by a perturbation".

Page 15, lines 20-22. Instead of "And thus, like Bossuet . . . etc." read "And thus, when reaching the age of retirement, Mr. Basch would not, like Bossuet, take his leave of controversy and eloquence".

Page 16, line 32. Instead of "nothing organic . . . nothing differentiated" read "anything organic . . . anything differentiated".

Page 18, line 15. Instead of "But the outstanding work" read "Another outstanding work".

Page 18, last line but one. Instead of "seriously" read "into account".
Page 19, line 21. Instead of "foolhardy" read "speedy".
Page 19, last line but one. Instead of "fifth century" read "fifth century B.C.".
Page 22, last line but one. Instead of "the most distinguished of . . ." read "the most distinguished lady amongst . . .".
Page 23, footnote 53. Instead of "Blaud" read "Bloud".

An informal meeting of persons interested in the advancement of logical studies, and particularly in the possibility of providing greater facilities for the publication of papers in symbolic or mathematical logic, was held on December 27 at New York University during the annual meeting of the Eastern Division of the American Philosophical Association. Professor C. J. Ducasse reported that a considerable majority of the logicians and mathematicians (who answered a questionnaire recently sent out) were of the opinion that a need existed for an international Journal of Logic which would supplement existing channels for the publication of papers in symbolic or mathematical logic. The sense of the meeting was that an Association should be organized for the advancement of logical studies through the establishment of such a Journal, and possibly also by means of meetings occasionally held in conjunction with those of the A.A.A.S. or the American Philosophical Association; and that a committee of organization should be appointed by the chairman. Some forty-eight persons present at the meeting indicated their willingness to join such an association. A Committee of Organization was appointed.

Since more definite plans for the proposed Journal must depend largely on the funds that would be available, all persons (whether or not themselves working in the field of Logic) who would favor the launching of such a Journal, and who would be willing to lend it their support by joining the proposed association (with dues of probably $3.00 a year) are asked to send their names to Professor C. J. Ducasse, Brown University, Providence, R.I.

The following is a list of articles in current philosophical periodicals:

MIND, XLIV, 173: *John Wisdom,* God and Evil; *J. Loewenberg,* The Comedy of Immediacy in Hegel's "Phenomenology" (II); *H. D. Oakeley,* Professor Nicolai Hartmann's Concept of Objective Spirit; *John W. Blyth,* A discussion of Mr. Price's "Perception"; *Jared S. Moore,* A Suggestion Regarding Plato and Socrates.

PHILOSOPHY, X, 37: *L. J. Walker,* International Congress on Philosophy, Prague, 1934; *J. A. Smith,* Great Thinkers (III), Aristotle (Part II); *H. A. Prichard,* The Meaning of τἀγαθόν in the Ethics of Aristotle; *B. M. Laing,* On Value; *Michael Kaye,* From Disenchantment to Construction; *J. S. Moore,* An Approach to Philosophy; *J. E. Turner,* Qualitative and Quantitative: How and Why?

THE MONIST, XLV, 1: *Karl Britton,* Language Public and Private; *George Todd Kalif,* The Antecedent Identity of Natural Objects; *W. V. Metcalf,* The Reality of Cause in the Physical Universe; *Oliver L. Reiser,* Non-Aristotelian Logics; *Saunders MacLane,* A Logical Analysis of Mathe-

matical Structure; *George Gentry,* Broad's Sensum Theory and the Problem of the Sensible Substratum.

THE JOURNAL OF PHILOSOPHY, XXXII, 1: *Albert Hofstadter,* Power and Causality; *Gregory H. S. Razran,* Psychology in the U.S.S.R. 2: *Lincoln Rothschild,* Basic Concepts in the Plastic Arts. 3: *James A. Notopoulos,* The Divided Line of the Platonic Tradition; *Bruce W. Brotherston,* The Philosophic Importance of the Determining Tendency. 4: *Benjamin Ginzburg,* The Finite Universe and Scientific Extrapolation; *Eugen Rosenstock-Hussey,* The Predicament of History. 5: *L. P. Chambers,* A Defense of Monism; *Y. H. Krikorian,* The Concept of Organization; *Paul Goodman,* The Moral Idea of Money.

THE HIBBERT JOURNAL, XXXIII, 2: *Ralph Barton Perry,* The Meaning of Death; *G. K. Bowes,* "The Decline of the West" in Actual Progress; *The Editor,* The Meaning of Physical Culture; *M. Chaning-Pearce,* Rhythm in Education; M. Loisy Explains; *Ray Knight,* A Mathematician on the Origin of Christianity: William Benjamin Smith; *Robert H. Thouless,* The Changing Character of Organised Religion: A Study of the Facts; *R. A. Edwards,* Has the Church Obstructed Progress? *W. S. Urquhart,* Indian Pantheism and Western Thought; *Laird Wingate Snell,* The Growth of National Self-Sufficiency—What Next? *Muriel Kent,* Edward Irving; *James Moffatt,* Survey of Recent Theological Literature.

THE JOURNAL OF RELIGION, XV, 1: *John Wright Buckham,* God and the Ideal: Professor Dewey Reinterprets Religion; *Henry Nelson Wieman,* Dewey and Buckham on Religion; *A. Eustace Haydon,* Mr. Dewey on Religion and God; *Carl E. Schneider,* The Genius of the Reformed Church in the United States; *Gilbert Kelly Robinson,* Dualism, Naturalism, and Spiritual Life; *R. A. Schermerhorn,* Salvaging Secularism; *George Brockwell King,* The "Negative" Golden Rule; *Martin Rist,* Is Matt. 11:25-30 a Primitive Baptismal Hymn?

THE NEW SCHOLASTICISM, IX, 1: *Henry A. Lucks,* Natura Naturans—Natura Naturata; *Albert William Levi,* Value in the Great Tradition; *D. E. Sharp,* Further Philosophical Doctrines of Kilwardby.

ANGLICAN THEOLOGICAL REVIEW, XVII, 1: *Thomas R. Kelly,* Santayana and the Mystic's Moment; *Percy V. Norwood,* The *Apostolic Tradition* of Hippolytus.

THE HARVARD THEOLOGICAL REVIEW, XXVIII, 1: *Alexander Souter,* Greek and Hebrew Words in Jerome's Commentary on St. Matthew's Gospel; *Martin Percival Charlesworth,* Some Observations on Ruler-Cult, especially in Rome; *Hermann Ranke,* The Origin of the Egpytian Tomb Statue.

SPECULUM, X, 1: *Jacob Hammer,* A Commentary on the *Prophetia Merlini; Arthur Burkhard,* Veit Stoss, German Sculptor; *Dorothy K. Coveney,* An Unpublished Seventh-Century Uncial Fragment; *L. H. Gray,* The Origin of the Name of Glastonbury; *Dorothy Sutcliffe,* The See of Canterbury, 1279-1292; *F. J. E. Raby,* The "Manerius" Poem and the Swan-Children;

R. P. Johnson, Some Manuscripts of the Mappae Clavicula; *Joan Hussey,* Michael Psellus; *S. J. Herben, Jr.,* The Vercelli Book: A New Hypothesis.

THE AUSTRALASIAN JOURNAL OF PSYCHOLOGY AND PHILOSOPHY, XII, 4: *Lloyd Ross,* Economics and Politics; *Fred C. Rose,* Language in Education (II); *F. T. Nankervis,* A Critical Examination of the Conception of God in the Philosophy of A. N. Whitehead; *W. M. O'Neil,* Mind as Feeling?; *W. Anderson,* Academic Freedom: A Rejoinder; *John Anderson,* Some Remarks on Academic Freedom; *P. W. Robertson,* Emotion and Intellect in Music.

PHILOSOPHY OF SCIENCE, II, 1: *Albert E. Blumberg,* The Nature of Philosophical Analysis; *A. Emery,* Dialectics versus Mechanics. A Communist Debate on Scientific Method; *Philip Franklin,* What is Topology?; *Henry Margenau,* Methodology of Modern Physics; *N. Rashevsky,* The Biophysics of Space and Time; *Henry Evelyn Bliss,* The System of the Sciences and the Organization of Knowledge.

ANALYSIS, II, 4:*Carl G. Hempel,* On the Logical Positivists' Theory of Truth; *A. C. Ewing,* Two Kinds of Analysis.

THE BRITISH JOURNAL OF PSYCHOLOGY, XXV, 3: *P. E. Vernon,* Auditory Perception. II. The Evolutionary Approach; *A. W. G. Ewing* and *T. S. Littler,* Auditory Fatigue and Adaptation; *H. W. Nissen, S. Machover,* and *Elaine F. Kinder,* A Study of Performance Tests Given to a Group of Native African Negro Children; *E. Dauncey Tongue,* The Contact of Races in Uganda; *A. R. Pachauri,* A Study of Gestalt Problems in Completed and Interrupted Tasks; *L. Chen,* Periodicity in Oscillation; *J. O. Irwin,* On the Indeterminacy in the Estimate of g; *William Brown,* A Note on the Theory of Two Factors *versus* the Sampling Theory of Mental Ability; *W. Stephenson,* A Note on Factors and the Partial Correlation Procedure; *J. D. Sutherland,* A Reply to Dr. Stephenson's Note on Factors and the Partial Correlation Procedure.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XLVII, 1: *J. M. Hunt,* A Functional Study of Observation; *H. Werner,* Studies on Contour, I. Qualitative Analyses; *G. O. McGeoch,* The Conditions of Reminiscence; *W. Brown,* Growth of "Memory Images"; *K. Hevner,* The Affective Character of the Major and Minor Modes in Music; *J. D. Frank,* Individual Differences in Certain Aspects of the Level of Aspiration; *L. W. Kline* and *H. M. Kohler,* A Comparison of the Conditioning of Muscular Responses which Vary in Their Degree of Voluntary Control; *F. H. Lewis,* Some Characteristics of Rhythmic Perception; *W. A. Hunt* and *C. Landis,* Word-Association Reaction-Time and the Magnitude of the Galvanic Skin Response.

PSYCHOLOGICAL REVIEW, XL, 1: *Joseph Peterson,* Aspects of Learning; *Jack Buel* and *E. L. Ballachey,* Limiting Factors in the Effect of the Reward upon the Distribution of Errors in Mazes; *Edward C. Tolman* and *Egon Brunswik,* The Organism and the Causal Texture of the Environment; *W. A. Hunt* and *Carney Landis,* The Present Status of Abnormal Psychology; *John J. B. Morgan,* Manic Depressive Psychoses of Business; *J. Stanley Gray,* An Objective Theory of Emotion; *Wayne Dennis,* Goal

Gradient or Entrance Gradient? 2: *Herbert Woodrow,* The Effect of Practice upon Time-Order Errors in the Comparison of Temporal Intervals; *Raymond Royce Willoughby,* The Concept of Reliability; *Kate Gordon,* Perception and Imagination; *Kate Hevner,* Expression in Music: A Discussion of Experimental Studies and Theories; *Merle Hugh Elliot:* Drive and the Characteristics of Driven Behavior.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY, XVIII, 1: *N. I. Kasatkin* and *A. M. Levikova,* On the Development of Early Conditioned Reflexes and Differentiations of Auditory Stimuli in Infants; *H. N. Peters,* Mediate Association; *G. Katona,* Color-Contrast and Color-Constancy; *J. P. Seward, Jr.* and *G. H. Seward,* The Relation of Galvanic Skin Reactions to Preceding Resistance; *C. W. Manzer,* The Effect of Tactual Localization of Movement During Stimulation; *C. W. Telford* and *W. E. Denk,* The Inconstancy of the Weber-Fechner 'Constant' for Audition; *A. L. Winsor* and *S. J. Richards,* The Development of Tolerance for Cigarettes; *R. W. Gilbert* and *L. W. Crafts,* The Effect of Signal for Error upon Maze Learning and Retention; *A. L. Young,* The Comparative Efficiency of Varied and Constant Methods in Sensorimotor Learning; *C. W. Telford* and *H. Spangler,* Training Effects in Motor Skills; *D. G. Ryans,* A Preliminary Investigation of the Effects of Mental Distraction upon Muscular Fatigue; *B. Crider,* The Relationship of Eye Muscle Balance to the Sighting Eye; *H. Piéron,* On the "Factors Influencing the Latent Time of the Patellar Reflex."

PSYCHOLOGICAL BULLETIN, XXXII, 1: *J. R. Kantor,* James Mark Baldwin. *M. O. Wilson,* Chronaxie; *Marguerite R. Hertz,* The Rorschach Inkblot Test: Historical Summary; *Jack Buel,* Differential Errors in Animal Mazes. 2: *Clara Burri,* The Present Status of the Problem of Individual Differences in Alternating Activities; *Francis W. Irwin,* Psychophysical Measurement Methods.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XLII, 1: *L. Brunschvicg,* Religion et philosophie; *L. Dugas,* La théorie de la mémoire affective chez Maine de Biran; *J. Delvolvé,* Rôle esthétique de la récurrence (premier article).

REVUE PHILOSOPHIQUE, LX, 1 et 2: *P. Villey,* Psychologie et pedagogie des aveugles; *R. Bespaloff,* En marge de "Crainte et Tremblement" de Kierkegaard; *R. Ruyer,* Une métaphysique présente-t-elle de l'intérêt?; *F. Heinemann,* La phénoménologie de la Nature chez Goethe.

REVUE D'HISTOIRE DE LA PHILOSOPHIE ET D'HISTOIRE GÉNÉRALE DE LA CIVILISATION, N. S., 8: *René Hubert,* Essai zur l'histoire de l'idée de Progrès (1re partie); *François Préchac,* Au dossier de Servius; *J.-H. Giraud,* Chateaubriand et Delisle de Sales; *Hélène d'Alsó,* Balzac, Cuvier et Geoffroy Saint-Hilaire (1831-1843); *Floris Delattre,* Un dilettante de l'aventure: Robert Louis Stevenson.

KANT-STUDIEN, XXXIX, ¾: *Paul Menzer,* Deutsche Philosophie als Ausdruck deutscher Seele; *Guido Calogero,* Philosophie der Philosophie im heutigen italienischen Denken; *J. E. Salomaa,* Die Anfänge des Hege-

lianismus in Finnland; *Walter Del-Negro,* Hans Vaihingers philosophisches Werk mit besonderer Berücksichtigung seiner Kantforschung.

SCHOLASTIK, X, 1: *Joseph Ternus,* Vom Gemeinschaftsglauben der gesamtkirchlichen Lebens; *Johann B. Schuster,* Eine neue Deutung des Aristotelischen Hylebegriffes; *Karl Prümm,* Die Darstellungsform der Hadesfahrt des Herrn in der Literatur der alten Kirche; *Joseph de Vries,* Das Weltbild der neuen Physik und die alte Metaphysik.

RIVISTA DI FILOSOFIA NEO-SCOLASTICA, XXVI, 5-6: Il nono congresso nacionale di filosofia; *F. Olgiati,* Filosofia, storia della filosofia, storia; *F. A. Gemelli,* La Misura in psicologia; *G. Bontadini,* Realismo gnoseologico e metafisica dell'essere; *C. Ottaviano,* Critica al principio d'immanenza; *S. Vanni-Rovighi,* Concezione aristotelicotomistica e concezione moderna dell'induzione; *U. A. Padovani,* Filosofia religiosa idealistica e filosofia religiosa neo-scolastica; *P. Rotta,* L'interpretazione idealistica di Platone nella critica moderna; *R. Amerio,* Di alcune aporie dell'interpretazione deistica della filosofia campanelliana al lume degli inediti; *P. Rossi,* Le odierne teorie fisiche di carattere simbolico e la filosofia naturale; *M. Casotti,* Pedagogia e psicologia.

LOGOS, XVII, 4: *N. Ramagli,* Bossuet e le sue controversie; *C. Carbonara,* L'individuo e la storia; *C. Ottaviano,* La "Logica del potenziamento" della Scuola di Torino; *E. De Martino,* Il dramma tra individuo e Stato nella politica platonica; *D. Bosurgi,* Il pensiero filosofico di Francesco Fiorentino nella storia della sua formazione; *N. Petruzzellis,* Il problema della storia nell' idealismo moderno; *C. Cannata,* Michele La Rosa; *P. Filiasi Carcano,* Riflessioni sulla polemica idealismo-realismo.

GIORNALE CRITICO DELLA FILOSOFIA ITALIANA, XV, 6; *P. O. Kristeller,* L'unità del mondo nella filosofia di Marsilio Fincino; *L Grassi,* Il problema dell'inconscio e l'idealismo.

ANNALI DELLA R. SCUOLA NORMALE SUPERIORE DI PISA, III, 4: *M. Barbi,* Il testo die "Promessi Sposi"; *L. Borghi,* La concezione umanistica di Coluccio Salutati; *G. di Pino,* Il burlesco nel "Morgante".

REVISTA DE PSICOLOGIA I PEDAGOGIA, II, 8: *G. Vermbylen,* La relació del nivell mental amb els resultats escolors; *Pere Font Puig,* El mecanicisme respecte de la vida i de la sensibilitat enfront d'altres doctrines; *J. Roura,* Les tres Pedagogies (II); *M. Comas,* Alguns fonaments psicològics per a la metodologia de les metemàtiques.